

Pioneer *sound.vision.soul*

DVR-RT601H-S

VHS/HDD/DVD RECORDER

HDD
HARD DISK DRIVE

DVD
VIDEO

DVD
R

DVD
R W

COMPACT
disc
DIGITAL AUDIO

COMPACT
disc
DIGITAL VIDEO

VHS
PAL SECAM

GUIDEplus
GEMSTAR

VIDEOplus

RW
COMPATIBLE

Discover the benefits of registering your product online at www.pioneer.co.uk
(www.pioneer-eur.com)

Operating Instructions

Thank you for buying this Pioneer product.

Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

IMPORTANT



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



CAUTION:

TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

D3-4-2-1-1_En-A

WARNING

This equipment is not waterproof. To prevent a fire or shock hazard, do not place any container filled with liquid near this equipment (such as a vase or flower pot) or expose it to dripping, splashing, rain or moisture.

D3-4-2-1-3_A_En

WARNING

Before plugging in for the first time, read the following section carefully.

The voltage of the available power supply differs according to country or region. Be sure that the power supply voltage of the area where this unit will be used meets the required voltage (e.g., 230V or 120V) written on the rear panel.

D3-4-2-1-4_A_En

CAUTION

This product is a class 1 laser product, but this product contains a laser diode higher than Class 1. To ensure continued safety, do not remove any covers or attempt to gain access to the inside of the product. Refer all servicing to qualified personnel.

**CLASS 1 LASER PRODUCT
LASER KLASSE 1
クラス1レーザ製品**

The following caution label appears on your unit.
Location: inside of the unit

CAUTION CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO THE BEAM.
ATTENTION RADIATIONS LASER VISIBLES ET INVISIBLES DE CLASSE 3B QUAND OUVERT. ÉVITEZ TOUT EXPOSITION AU FAISCEAU.
ADVARSEL KLASSE 3B SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARNING KLASSE 3B SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. UNDVIK ATT UTSÄTTA DIG FÖR STRÅLEN.
VORSICHT BEI GEÖFFNETER ABDECKUNG IST SICHTBARE UND UNSICHTBARE LASERSTRABHLUNG DER KLASSE 3B IM GERÄTEINNEREN VORHANDEN. AUGEN NICHT DEM LASERSTRAHL AUSSETZEN!
PRECAUCIÓN CUANDO SE ABRE HAY RADIACIÓN LÁSER DE CLASE 3B VISIBLE E INVISIBLE. EVITE LA EXPOSICIÓN A LOS RAYOS LÁSER.
VARO! AVATTAESSA OLET ALTIINNA NÄKYYÄLLE, JA NÄKYMÄTTÖMÄLLE LUOKAN 3B LASERSÄTELYLLE. ÄLÄ KATSO SÄTEESEEN.
注意 ここを開くと CLASS 3B の可視レーザ光及び不可視レーザ光が出ます。ビームを直接見たり、触れたりしないこと。

DRW2247 - B

D3-4-2-1-8_A_En

This product complies with the Low Voltage Directive (73/23/EEC, amended by 93/68/EEC), EMC Directives (89/336/EEC, amended by 92/31/EEC and 93/68/EEC).

D3-4-2-1-9a_En

WARNING

To prevent a fire hazard, do not place any naked flame sources (such as a lighted candle) on the equipment.

D3-4-2-1-7a_A_En

CAUTION

The STANDBY/ON switch on this unit will not completely shut off all power from the AC outlet. Since the power cord serves as the main disconnect device for the unit, you will need to unplug it from the AC outlet to shut down all power. Therefore, make sure the unit has been installed so that the power cord can be easily unplugged from the AC outlet in case of an accident. To avoid fire hazard, the power cord should also be unplugged from the AC outlet when left unused for a long period of time (for example, when on vacation).

D3-4-2-2-2a_A_En

Operating Environment

Operating environment temperature and humidity:
+5 °C – +35 °C (+41 °F – +95 °F); less than 80 %RH
(cooling vents not blocked)

Do not install this unit in a poorly ventilated area, or in locations exposed to high humidity or direct sunlight (or strong artificial light)

D3-4-2-1-7c_A_En

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

VENTILATION CAUTION

When installing this unit, make sure to leave space around the unit for ventilation to improve heat radiation (at least 10 cm at top, 10 cm at rear, and 10 cm at each side).

WARNING

Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the product, and to protect it from overheating. To prevent fire hazard, the openings should never be blocked or covered with items (such as newspapers, table-cloths, curtains) or by operating the equipment on thick carpet or a bed.

D3-4-2-1-7b_A_En

This product is for general household purposes. Any failure due to use for other than household purposes (such as long-term use for business purposes in a restaurant or use in a car or ship) and which requires repair will be charged for even during the warranty period.

K041_En

This product includes FontAvenue® fonts licenced by NEC corporation. FontAvenue is a registered trademark of NEC Corporation.

If the AC plug of this unit does not match the AC outlet you want to use, the plug must be removed and appropriate one fitted. Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel. If connected to an AC outlet, the cut-off plug can cause severe electrical shock. Make sure it is properly disposed of after removal.

The equipment should be disconnected by removing the mains plug from the wall socket when not left unused for a long period of time (for example, when on vacation).

D3-4-2-2-1a_A_En

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

5002_En



If you want to dispose this product, do not mix it with general household waste. There is a separate collection system for used electronic products in accordance with legislation that requires proper treatment, recovery and recycling.

Private households in the 25 member states of the EU, in Switzerland and Norway may return their used electronic products free of charge to designated collection facilities or to a retailer (if you purchase a similar new one).

For countries not mentioned above, please contact your local authorities for the correct method of disposal.

By doing so you will ensure that your disposed product undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health.

Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel.

IMPORTANT FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code:

Blue : Neutral
Brown : Live

If the plug provided is unsuitable for your socket outlets, the plug must be cut off and a suitable plug fitted.

The cut-off plug should be disposed of and must not be inserted into any 13 amp socket as this can result in electric shock. The plug or adaptor or the distribution panel should be provided with 5 A fuse. As the colours of the wires in the mains lead of this appliance may not correspond with coloured markings identifying the terminals in your plug, proceed as follows :

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal of a three pin plug.

NOTE

After replacing or changing a fuse, the fuse cover in the plug must be replaced with a fuse cover which corresponds to the colour of the insert in the base of the plug or the word that is embossed on the base of the plug, and the appliance must not be used without a fuse cover. If lost replacement fuse covers can be obtained from your dealer. Only 5 A fuses approved by B.S.I or A.S.T.A to B.S.1362 should be used.

D3-4-2-1-2-2_En

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Chapter 1

Before you start

Features

- **Built-in GUIDE Plus+® electronic program guide**

The GUIDE Plus+® system is an interactive on-screen TV programming guide. You can see what's on TV today and in the coming week, search TV listings for certain categories of program or by your own keywords, and even set the recorder to record programs with the press of a single button.

- **HDD recording** HDD

Record up to 227 hours of video (in MN1 mode) on the internal 80 GB (gigabyte) hard disk (HDD).

With recordable DVD, VHS and a high-capacity HDD all in the same recorder, you have the flexibility to keep recordings on the HDD for quick access anytime, or record to DVD or VHS for archiving or playing on other DVD or video players.

- **Copy between HDD, DVD and VHS**

You can quickly and easily copy digital video recordings between the HDD and DVD. When copying to DVD you can usually use the high-speed copy feature, which can copy an hour of video in about one minute (when recorded in SEP mode using a DVD-R Ver. 2.0 / 2.1 (16x) disc).

You can also choose to copy digital video at a different recording quality from the original. For example, you might want to copy an XP mode (highest quality) recording on the HDD to SP (standard play) quality on a DVD so that you can fit other recordings on the same disc.

- **Auto VHS Copy**

When copying using the handy Auto VHS Copy feature, the recording mode of the DVD is adjusted so that a whole VHS tape fits on to one DVD disc.

- **One Touch Copy**

One Touch Copy makes copying the currently playing title from HDD to DVD (and vice-versa) or the currently playing VHS material to HDD as simple as pressing a button.

- **High quality, real-time copying**

When recording to the HDD, picture quality data is also stored so that picture quality can be optimized when making real-time copies to DVD later.

This is applicable only to MN16–32 HDD recordings (Video Mode Off), or MN12–32 / XP+ recordings (Video Mode On).

- **Chase play** VR mode HDD

Using chase play you can start watching a recording from the beginning, while continuing to record. For example, you could set a timer recording for a program that you're going to miss the first 15 minutes of, then start watching while the recorder is still recording the program 15 minutes ahead of you.

- **Simultaneous recording and playback**

VR mode HDD

HDD and DVD playback and recording are completely independent. For example, you can record a broadcast program to a recordable DVD, while watching another recording you already made on the same DVD.

- **On-screen Help**

Use the **HELP** button on the remote control to display a help screen for the current operation.

- **Disc Navigator**

The on-screen Disc Navigator makes finding your way around the contents of a disc or the HDD easy. For recordable DVD and HDD content, moving thumbnail images are displayed for ease of use. The Disc Navigator is also where you can edit HDD and recordable DVD content.

- **Home Menu**

The Home Menu gives you on-screen access to all the recorder's features in one convenient place, from setting up the recorder, to programming a timer recording and editing a recording.

- **Progressive scan-compatible**

Compared to standard interlaced video, progressive scan effectively doubles the amount of video information fed to your TV or monitor. The result is a stable, flicker-free image. (Check your TV/monitor for compatibility with this feature.)

- **Cinema-style surround sound in your home**

Connect this recorder to a Dolby Digital and/or DTS-compatible AV amp/receiver to enjoy full surround sound effects from Dolby Digital and DTS DVD discs.

- **Easy Timer Recording**

Setting the recorder to record a program is simple from the Easy Timer Recording screen. Set the channel to record and the recording quality, then graphically set the start and end times of the recording. That's it!

- **Program up to 32 timer recordings**

You can program the recorder to record up to 32 programs, up to a month in advance. As well as single programs, you can specify daily or weekly recordings, too.

This recorder is also compatible with VPS/PDC systems, which ensure you don't miss a timer recording, even if the broadcast is not running to schedule.

Note that VHS timer recording is not possible.

- **One Touch Recording**

Use One Touch Recording to start recording immediately in 30 minute blocks. Each time you press the **REC** button, the recording time is extended by another 30 minutes, up to six hours.

- **Optimized recording**

Optimized recording adjusts the recording quality automatically if a timer recording will not fit onto a disc with the settings that you made.

- **Super high quality HDD recording** **HDD**

Using the **XP+** recording mode you can record super high quality video (around 15 Mbps data transfer rate) to the HDD.

- **High quality 16-bit Linear PCM audio**

In the **LPCM** recording mode, audio is recorded in uncompressed 16-bit Linear PCM format. This delivers great sounding audio to accompany the high picture quality.

- **Picture quality adjustment features**

During playback, you can adjust various picture quality settings to improve the picture. You can also adjust the recording picture quality. For example, if you want to make a DVD copy of an old video tape, you can optimize the picture quality before transferring it to disc.

- **Find what you want to watch quickly and easily**

You can jump right to the part of a DVD disc or the HDD that you want to watch. Search for a point on a disc by title, chapter or time.

- **Manual recording**

In addition to six preset recording quality modes, the manual recording mode allows you to access 34 different recording quality/time settings, giving you precise control over the recording.

- **Safe, non-destructive editing** **VR mode**

When editing Play List content, the actual content of the disc (the Original content) is not touched. The edited version (the Play List content) just points to various parts of the Original content.

- **Play Video mode recordings on a regular DVD**

player **Video mode**

Discs recorded using the Video mode can be played back on regular DVD players, including computer DVD drives compatible with DVD-Video playback*.

** 'DVD-Video format' recording: The use of the DVD-Video format for recording on DVD-R and DVD-RW discs is referred to as recording in 'Video mode' on Pioneer's DVD recorders. Supporting playback of DVD-R / DVD-RW discs is optional for manufacturers of DVD playback equipment, and there is DVD playback equipment that does not play DVD-R or DVD-RW discs recorded in the DVD-Video format.*

Note: 'Finalization' is required.

- **WMA, MP3 and JPEG file playback**

This recorder can play WMA and MP3 audio files and JPEG picture files on CD-R, CD-RW or CD-ROM discs.

- **Disc Back-up**

The disc back-up feature gives you a convenient way to back-up important material on a finalized Video mode DVD to another recordable DVD disc. The material is first copied to the HDD, then on to a second DVD disc.

- **Recovery Recording** **HDD**

When a timer recording is set to use DVD but the disc loaded at the time of the recording is unrecordable, the program will automatically be recorded to the HDD.

- **Auto Replace Recording** **HDD**

This feature is useful for regular timer recordings of a TV program which you don't want to keep after watching. Each time the program is recorded, it replaces the one currently on the HDD. There's no need to manually delete it later.

Note on copying:

Recording equipment should be used only for lawful copying and you are advised to check carefully what is lawful copying in the country in which you are making a copy. Copying of copyright material such as films or music is unlawful unless permitted by a legal exception or consented to by the rightowners.

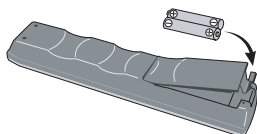
What's in the box

Please confirm that the following accessories are in the box when you open it.

- Remote control
- AA/R6P dry cell batteries x2
- Audio/video cable (red/white/yellow)
- G-LINK™ cable
- RF antenna cable
- Power cable
- These operating instructions
- Warranty card

Putting the batteries in the remote control

1 Insert two AA/R6P batteries into the battery compartment following the indications (+, -) inside the compartment.



Important

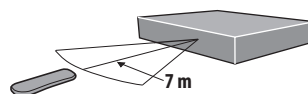
Incorrect use of batteries can result in hazards such as leakage and bursting. Please observe the following:

- Don't mix new and old batteries together.
- Don't use different kinds of batteries together—although they may look similar, different batteries may have different voltages.
- Make sure that the plus and minus ends of each battery match the indications in the battery compartment.
- Remove batteries from equipment that isn't going to be used for a month or more.
- When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area.

Using the remote control

Please keep in mind the following when using the remote control:

- Make sure that there are no obstacles between the remote and the remote sensor on the unit.
- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the unit's remote sensor.
- Remote controllers for different devices can interfere with each other. Avoid using remotes for other equipment located close to this unit.
- Replace the batteries when you notice a fall off in the operating range of the remote.
- When the batteries run down or you change the batteries, the remote control mode and TV preset codes are automatically reset. See *Remote Control Mode* on page 115 and *Setting up the remote to control your TV* on page 118 to reset them.
- Use within the operating range in front of the remote control sensor on the front panel, as shown.




- You can control this recorder using the remote sensor of another Pioneer component using the **CONTROL IN** jack on the rear panel. See *Rear panel connections* on page 13 for more information.

Disc / content format playback compatibility

General disc compatibility

This recorder is compatible with a wide range of disc types (media) and formats. Playable discs will generally feature one of the following logos on the disc and/or disc packaging. Note however that some disc types, such as recordable CD and DVD, may be in an unplayable format—see below for further compatibility information.



- This recorder will play DVD-RAM, DVD+R/+RW discs.
- Also compatible with KODAK Picture CD
- **DVD** is a trademark of DVD Format/Logo Licensing Corporation.
-  is a trademark of Fuji Photo Film Co. Ltd.

This recorder also supports the IEC's Super VCD standard. Compared to the Video CD standard, Super VCD offers superior picture quality, and allows two soundtracks to be recorded. Super VCD also supports the widescreen size.



DVD-R/RW compatibility

This recorder will play and record DVD-R/RW discs.

Compatible media:

- DVD-RW Ver. 1.1, Ver. 1.1 / 2x, Ver. 1.2 / 2–4x and Ver. 1.2 / 2–6x
- DVD-R Ver. 2.0 and Ver. 2.0 / 4x / 8x / 16x, and Ver. 2.1 1–8x / 1–16x

Recording formats:

- DVD-R/RW: Video Recording (VR) format and DVD-Video format (Video mode)

Readable formats:

- DVD-R/RW: Video Recording (VR) format and DVD-Video format (Video mode)

Note that older models of DVD recorders and DVD writers may reject DVD-RW Ver. 1.2 discs and/or corrupt the data on the disc. If you want to share DVD-RW discs between this recorder and an older recorder/writer, we recommend using Ver. 1.1 discs.

The following table shows older Pioneer DVD recorders' limited compatibility with DVD-RW Ver. 1.2 discs.

Model	Playable	Recordable
DVR-7000	Yes ^{1,2,3}	No
DVR-3100/ DVR-5100H	Yes ¹	No

¹ Discs should be finalized in this recorder before playing. Unfinalized VR mode and Video mode discs may not play.

² Cannot read the CPRM information will show in the display when you load a disc. However, this will not affect playback.

³ Copy-once protected disc titles will not play.

DVD-RAM, DVD+R/DVD+RW compatibility

For DVD-RAM playback, please take the disc out of the cartridge before use.

Only DVD+R/DVD+RW discs recorded in 'Video Mode (DVD Video Mode)' which have been finalised, can be played back. However, some editing made during the recording may not be played back accurately.

DVD-RAM, DVD+R/DVD+RW discs are playback compatible only. No recording compatibility.

About DualDisc playback

A DualDisc is a new two-sided disc, one side of which contains DVD content—video, audio, etc.—while the other side contains non-DVD content such as digital audio material.

The non-DVD, audio side of the disc is not compliant with the CD Audio specification and therefore may not play.

It is possible that when loading or ejecting a DualDisc, the opposite side to that being played will be scratched. Scratched discs may not be playable.

The DVD side of a DualDisc plays in this product. DVD-Audio content will not play.

For more detailed information on the DualDisc specification, please refer to the disc manufacturer or disc retailer.

Using dual-layer DVD-R discs

Dual-layer DVD-R discs contain two recordable layers on a single side, giving about 1.8 times the recording capacity of a conventional single-layer disc. This unit can record to dual-layer DVD-R discs in Video mode.

Although recording, playback and copy functions can be used in the same way as with conventional discs, please read the following notes on dual-layer disc use.

- Dual-layer DVD-R disc technology is a new standard approved by the DVD Forum in February 2005.
- If you intend to play dual-layer DVD-R discs recorded on this unit in other DVD recorders/players, you must finalize them. (Note that some DVD recorders/players may not play even finalized dual-layer discs.)
- Please read the information provided on the disc packaging carefully before purchasing dual-layer DVD-R discs:
- **Confirm the disc type:** This unit cannot record to DVD+R double-layer discs.
- **Confirm the disc version:** Use Ver. 3.0¹ dual-layer DVD-R discs.
- **Confirm the recording speed:** Use discs compatible with 2x or 4x recording speed.

Note

1. Ver. 3.0 may be printed either on the front or on the back side of the disc case depending on the manufacturer.

- This logo indicates that the disc is a dual-layer DVD-R disc:



- Correct operation has been confirmed for dual-layer DVD-R discs (Ver. 3.0/2x, 4x) produced by the following manufacturer: Mitsubishi Kagaku Media / Verbatim (as of March 2005)

Recording times for dual-layer DVD-R discs

Standard recording times¹ when using a 12 cm single-sided 8.5 GB dual-layer DVD-R disc are as follows:

XP: approx. 1 hr 51 mins
 SP: approx. 3 hr 35 mins
 LP: approx. 7 hr 11 mins
 EP: approx. 10 hr 46 mins
 SLP: approx. 14 hr 21 mins
 SEP: approx. 17 hr 57 mins
 MN1: approx. 24 hrs

Recording

- Dual-layer discs must be recorded in Video mode. You cannot record in VR mode.
- When the recorder switches from the first layer to the second during recording, a new title is automatically started on the new layer.
- You can record up to 99 titles on a single disc. If the 99th title is being recorded when the layer is switched, recording will stop.
- You cannot play, record additional material to, edit or finalize a dual-layer disc that has been recorded in Video mode but not yet finalized on another DVD recorder.

Playback

- There may be a slight pause when playback switches from the first to the second layer.

Finalizing

- If you intend to play a dual-layer DVD-R disc recorded on this unit in another DVD recorder/player, you must finalize it. (Note however that some DVD recorders/players may not play even finalized dual-layer discs.)
- Once a disc is finalized, it cannot be recorded to or edited.

- Finalizing a dual-layer disc may take longer than finalizing a single-layer disc. The longer the remaining recordable time left on the disc, the longer the finalization process takes.

Copying

- During real-time copying, titles are divided at the point where copying switches from the first to the second layer. However, thumbnail images for the titles may differ from the original thumbnail images. In addition, if the number of titles exceeds 99, the last title will not be copied.
- With high-speed copying, titles are not divided at the point where the layers change.

CD-R/RW compatibility

This recorder cannot record CD-R or CD-RW discs.

- Readable formats: CD-Audio, Video CD/Super VCD, ISO 9660 CD-ROM* containing MP3, WMA or JPEG files
** ISO 9660 Level 1 or 2 compliant. CD physical format: Mode1, Mode2 XA Form1. Romeo and Joliet file systems are both compatible with this recorder.*
- Multi-session playback: Yes (except CD-Audio and Video CD/Super VCD)
- Unfinalized disc playback: CD-Audio only

Compressed audio compatibility

- Compatible media: CD-ROM, CD-R, CD-RW
- Compatible formats: MPEG-1 Audio Layer 3 (MP3), Windows Media Audio (WMA)
- Sampling rates: 44.1 or 48kHz
- Bit-rates: Any (128Kbps or higher recommended)
- Variable bit-rate (VBR) MP3 playback: Yes
- VBR WMA playback: No
- WMA encoder compatibility: Windows Media Codec 8 (files encoded using Windows Media Codec 9 may be playable but some parts of the specification are not supported; specifically, Pro, Lossless, Voice and VBR)
- DRM (Digital Rights Management) file playback: No (see also DRM in the Glossary on page 130)
- File extensions: .mp3, .wma (these must be used for the recorder to recognize MP3 and WMA files – do not use for other file types)
- File structure: Up to 99 folders / 999 files (if these limits are exceeded, only files and folders up to these limits are playable)

Note

1. The maximum number of recordable titles on a disc is 99. You will not be able to record for the maximum recording time if the maximum allowable number of titles is exceeded.

WMA (Windows Media Audio) compatibility



The Windows Media® logo printed on the box indicates that this recorder can playback Windows Media Audio content.

WMA is an acronym for Windows Media Audio and refers to an audio compression technology developed by Microsoft Corporation. WMA content can be encoded by using Windows Media® Player for Windows® XP, Windows Media® Player 9 or Windows Media® Player 10 series.

Microsoft, Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

JPEG file compatibility

- Compatible formats: Baseline JPEG and EXIF 2.2* still image files
*File format used by digital still cameras
- Sampling ratio: 4:4:4, 4:2:2, 4:2:0
- Horizontal resolution: 160 – 5120 pixels
- Vertical resolution: 120 – 3840 pixels
- Progressive JPEG compatible: No
- File extensions: .jpg, .jpeg, .jif, .jfif (must be used for the recorder to recognize JPEG files – do not use for other file types)
- File structure: The recorder can load up to 99 folders / 999 files at one time (if there are more files/folders that this on the disc then more can be reloaded)

PC-created disc compatibility

Discs recorded using a personal computer may not be playable in this unit due to the setting of the application software used to create the disc. In these particular instances, check with the software publisher for more detailed information.

Discs recorded in packet write mode (UDF format) are not compatible with this recorder.

Check the DVD-R/RW or CD-R/RW software disc boxes for additional compatibility information.



Frequently asked questions

- What's the difference between DVD-R and DVD-RW?

The most important difference between DVD-R and DVD-RW is that DVD-R is a record-once medium, while DVD-RW is a re-recordable/erasable medium. You can re-record/erase a DVD-RW disc approximately 1,000 times.

For more information, see *About DVD recording* on page 50.

- What's VR mode?

VR (Video Recording) mode is a special mode designed for home DVD recording. It allows flexible editing of recorded material compared to 'Video mode'. On the other hand, Video mode discs are more compatible with other DVD players.

- How do I change the format of a disc?

Both DVD-R and DVD-RW discs can be initialized for Video mode or VR mode recording. DVD-R discs are ready for Video mode recording when you first load them into the recorder. You can, however, initialize them for VR mode recording from the Disc Setup menu.

DVD-RW discs can be initialized and re-initialized for either mode at any time (although initializing will erase all the data on the disc).

- Can I play my recordable discs in a regular DVD player?

Generally, DVD-R discs and DVD-RW discs recorded in Video mode* are playable in a standard DVD player, but they must be 'finalized' first. This process fixes the contents of the disc to make them readable to other DVD players as DVD-Video discs.

DVD-R discs recorded in VR mode are not playable in standard DVD players, but may be playable in other DVD recorders and DVD-ROM drives (in the case of DVD-ROM drives, the disc will need to be finalized first).

DVD-RW discs recorded in VR mode are playable in some players and other recorders.

Note that discs may not play due to recording or disc characteristics, scratches or dirt on the disc or pickup lens, etc.



This label indicates playback compatibility with DVD-RW discs recorded in VR mode (Video Recording format). However, for discs recorded with a record-only-once encrypted program, playback can only be achieved using a CPRM compatible device.

Note that Pioneer cannot guarantee that discs recorded using this recorder will play on other players.

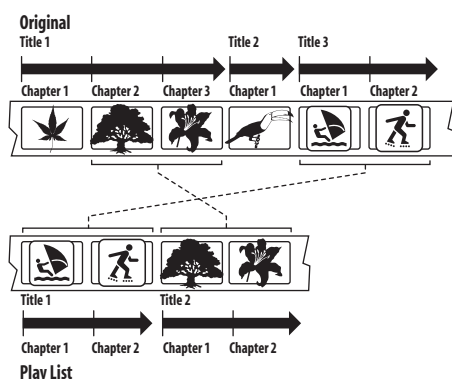
* 'DVD-Video format' recording: The use of the DVD-Video format for recording on DVD-R and DVD-RW discs is referred to as recording in 'Video mode' on Pioneer's DVD recorders. Supporting playback of DVD-R / DVD-RW discs is optional for manufacturers of DVD playback equipment, and there is DVD playback equipment that does not play DVD-R or DVD-RW discs recorded in the DVD-Video format.

Note: 'Finalization' is required.

This recorder supports the recording of 'copy-once' broadcast programs using the CPRM copy protection system (see CPRM on page 51) on CPRM-compliant discs in VR mode. CPRM recordings can only be played on players that are specifically compatible with CPRM.

- Do I need two DVD recorders for editing? What kind of editing can I do?

Unlike editing video tape, you only need one DVD recorder to edit discs. With VR mode discs, you can edit by making a 'Play List' of what to play and when to play it. On playback, the recorder plays the disc according to the Play List.



Throughout this manual, you will often see the words Original and Play List to refer to the actual content and the edited version.

- **Original** content refers to what's actually recorded on the disc.
- **Play List** content refers to the edited version of the disc—how the Original content is to be played.

About the internal hard disk drive

The internal hard disk drive (HDD) is a fragile piece of equipment. Depending on the conditions under which it is used, or through careless use, it is possible that the recorded contents will be damaged or lost completely, or that normal playback and recording will not be possible. Please understand that in the event of repair or replacement of the HDD or related components, all your HDD recordings will be lost.

Please use the recorder following the guidelines below to protect against possible HDD failure.

The HDD should not be regarded as a place to store recordings permanently. We recommend that you back up your important recordings onto DVD-R/RW discs in order to protect against accidental loss.

Pioneer cannot under any circumstances accept responsibility for any direct or indirect loss arising from any inconvenience or loss of recorded material resulting from HDD failure.

- Do not move the recorder while it is on (this includes during EPG download when the display shows **EPG**).
- Install and use the recorder on a stable, level surface.
- Do not block the rear vent/cooling fan.
- Do not use the recorder in excessively hot or humid places, or in places that may be subject to sudden changes in temperature. Sudden changes in temperature can cause condensation to form inside the recorder. This can be a cause of HDD failure.
- While the recorder is switched on (including during EPG download when the display shows **EPG**), do not unplug from the wall socket or switch the electricity off from the breaker switch.
- Do not move the recorder immediately after switching it off. If you need to move the recorder, please follow the steps below:
 - 1 After the message **POWER OFF** is shown in the display, wait at least two minutes.
 - 2 Unplug from the wall socket.
 - 3 Move the recorder.
- If there's a power failure while the recorder is on there is a chance that some data on the HDD will be lost.
- The HDD is very delicate. If used improperly or in an unsuitable environment, it is possible that the HDD will fail after a few years of use. Signs of problems include playback unexpectedly freezing and noticeable block noise (mosaic) in the picture. However, sometimes there will be no warning signs of HDD failure. If the HDD fails, no playback of recorded material will be possible. In this case it will be necessary to replace the HDD unit.

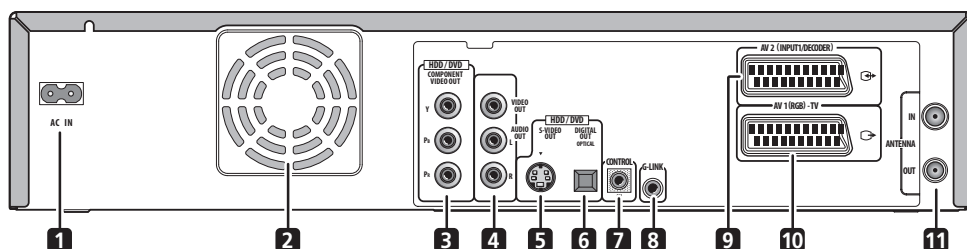
Optimizing HDD performance

As you record and edit material on the HDD, the data on the disk becomes fragmented, eventually affecting the recorder's performance. Before this happens, the recorder will warn you that it is time to optimize the HDD (which you can do from the Disc Setup menu; see *Optimize HDD* on page 105).

Chapter 2

Connecting up

Rear panel connections

**1 AC IN – Power inlet****2 Cooling fan**

Do not obstruct the cooling fan vents.

3 COMPONENT VIDEO OUT (HDD/DVD only)

A high-quality video output for connecting to a TV or monitor with a component video input.

4 VIDEO / AUDIO OUT

Standard video and stereo analog audio outputs for connection to a TV or AV amplifier/receiver.

5 S-VIDEO OUT (HDD/DVD only)

A high-quality video output for connecting to a TV or monitor with an S-Video input.

6 DIGITAL OUT (HDD/DVD only)

Optical digital audio jack for connecting to an AV amplifier/receiver, Dolby Digital/DTS/MPEG decoder or other equipment with a digital input.

7 CONTROL IN

Use to control this recorder from the remote sensor of another Pioneer component with a **CONTROL OUT** terminal and bearing the Pioneer **SR** mark. Connect the **CONTROL OUT** of the other component to the **CONTROL IN** of this recorder using a mini-plug cord. (Note that the analog audio out jacks should also be connected if using this feature.)

8 G-LINK™

Use to connect the supplied G-LINK™ cable to enable the GUIDE Plus+® system to control an external satellite receiver, etc.

9 AV2(INPUT 1/DECODER) AV connector

Audio/video input/output SCART-type AV connector for connecting to another video component with a SCART connector. The input accepts video, S-video and RGB. See *AV2/L1 In* on page 111 for how to set this up.

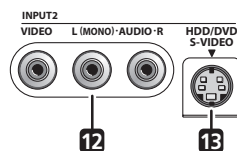
10 AV1(RGB)-TV AV connector

Audio/video output SCART-type AV connector for connecting to a TV or other equipment with a SCART connector. The video output is switchable between video, and RGB (though must be set to Video for VHS output). See *AV1 Out* on page 111 for how to set this up.

11 ANTENNA IN (RF IN)/OUT

Connect your TV antenna to the **ANTENNA IN (RF IN)** jack. The signal is passed through to the **ANTENNA OUT** jack for connection to your TV.

Front panel connections



There are more connections available on the front panel.

12 INPUT2 VIDEO / AUDIO

Standard video and stereo analog audio inputs, especially suitable for camcorders, game consoles, portable audio, etc.

13 S-VIDEO input (HDD/DVD only)

A high-quality S-Video input, especially suitable for camcorders, game consoles, portable audio, etc.

- You can't record the S-video input signal to VHS tape.

Extra features for use with compatible TVs

When this recorder is connected to a TV that features i/o Link, A, AV Link, T-V Link, EasyLink, MegaLogic, SMARTLINK, Q-Link, DATA LOGIC or NexTVView Link using a fully-wired 21-pin SCART cable (not supplied), the following functions are available:

- Direct TV Recording
- Channel Preset Download
- NexTVView timer programming download
- TV Auto Power On
- System Configuration

Note that these functions cannot be used when the front panel display shows **EPG**.

For further details and compatibility information, see also the manual that came with your TV.

Direct TV recording

Direct TV recording allows you to record to HDD, DVD or VHS the TV program that you're watching, without having to worry about whether this recorder is set to the same channel. See *Direct recording from TV* on page 53 and *Direct recording from TV* on page 72 for more on this feature.

Channel preset download

This feature allows you to set up the channel presets of this recorder very simply using the channel presets and preset names already in your TV. See *Switching on and setting up* on page 26 and *Auto Channel Setting* on page 110 for more on this feature.

NexTVView timer programming download

NexTVView timer programming download allows you to program a timer recording (HDD or DVD recording only) directly from the NexTVView electronic program guide displayed on your TV.

See the manual that came with your TV for more information on how to use this feature. Note that the **SP** and **LP** options displayed on your TV correspond to the **SP** and **LP** recording modes on this recorder.

TV auto power on

When you play a disc or tape in this recorder, the TV automatically turns on and switches to the correct video input. See the manual that came with your TV for how to use this feature.

System configuration

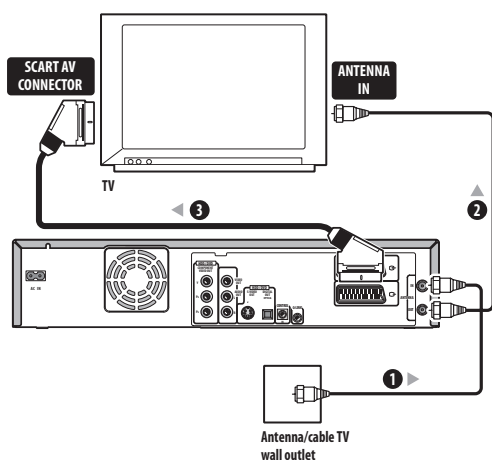
Basic settings, including language, country and TV screen size (aspect ratio), can be downloaded from your TV to help set up this recorder for use.

Easy connections

The setup described below is a basic setup that allows you to watch and record TV programs, and play discs. Other types of connections are explained starting on the following page.

Important

- These connections use SCART cables (not supplied). If your TV does not have a SCART connection, see the following page for connecting up using the supplied audio/video cable.
- The **AV1(RGB)-TV** AV connector can output ordinary (composite), S-video or RGB video, plus stereo analog audio. The **AV2(INPUT 1/DECODER)** connector accepts ordinary, S-video and RGB video input, as well as stereo analog audio. See *AV1 Out* on page 111 and *AV2/L1 In* on page 111 for how to set them up.¹
- Before making or changing any rear panel connections, make sure that all components are switched off and unplugged from the wall outlet.



1 Connect the cable from the antenna/cable TV outlet to the **ANTENNA IN (RF IN)** jack on this recorder.

2 Use another RF antenna cable to connect the **ANTENNA OUT** of this recorder to the antenna input on your TV.

3 Use a SCART cable (not supplied) to connect the **AV1(RGB)-TV** AV connector on this recorder to the SCART AV connector on your TV.

Tip

- This recorder has a 'through' function which allows you to record a TV program from the built-in TV tuner in this recorder while watching a video playing on a separate video component. (To use this feature when the recorder is in standby, **Power Save** must be set to **Off**—see *Power Save* on page 109).

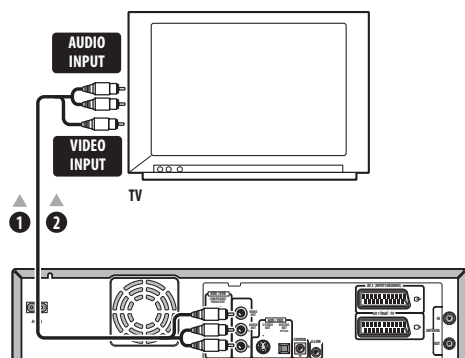
Note

¹ For better quality video during HDD/DVD playback and recording, you can use the **S-Video** and **RGB** settings with AV connections. However, for VHS playback and recording, the **AV1 Out** and **AV2/L1 In** settings (on page 111) must be set to **Video**.

Using other types of audio/video output

If you can't use the SCART AV connector to connect your TV to this recorder, there are standard audio/video output jacks, as well as an S-video and component video output.¹

Using the supplied audio/video cable



1 Connect the VIDEO OUT jack to a video input on your TV.

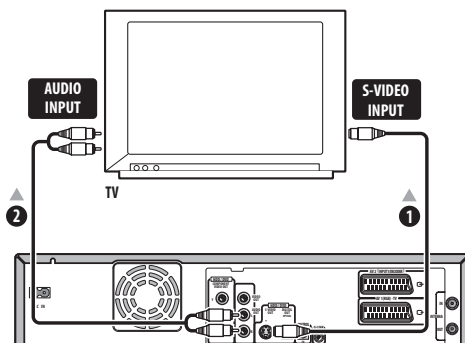
Use the yellow jack of the supplied audio/video cable for the video connection.

2 Connect the AUDIO OUT jacks to the corresponding audio inputs on your TV.

Use the red and white jacks of the supplied audio/video cable for the audio connection. Make sure you match up the left and right outputs with their corresponding inputs for correct stereo sound.

Using the S-video output

(HDD/DVD playback only)



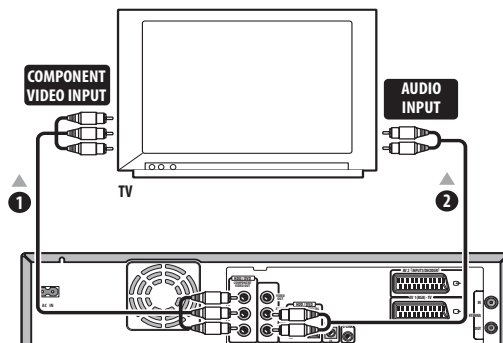
1 Use an S-video cable (not supplied) to connect the S-video output to an S-video input on your TV.

2 Connect the AUDIO OUT jacks to the corresponding audio inputs on your TV.

You can use the supplied audio/video cable, leaving the yellow video plug disconnected. Make sure you match up the left and right outputs with their corresponding inputs for correct stereo sound.

Using the component video output

(HDD/DVD playback only)



1 Use a component video cable (not supplied) to connect the component video output to a component video input on your TV.

- See also *Component Video Out* on page 110 for how to set up the component video output for use with a progressive scan-compatible TV.

2 Connect the AUDIO OUT jacks to the corresponding audio inputs on your TV.

You can use the supplied audio/video cable, leaving the yellow video plug disconnected. Make sure you match up the left and right outputs with their corresponding inputs for correct stereo sound.

Note

¹ The **S-VIDEO** and **COMPONENT** video jacks output a video signal during HDD and DVD playback only. For VHS playback, connect either the **AUDIO/VIDEO OUT** jacks (using a standard audio/video cable) or the **AV1 (RGB) - TV** terminal (using a SCART cable) to your TV.

Connecting to a cable box, satellite receiver or digital terrestrial receiver

If you have a cable, satellite or digital terrestrial receiver with a built-in decoder, connect it to this recorder and your TV as shown on this page.¹ If you are using a separate decoder box for your cable/satellite TV, set up following the instructions on the next page.

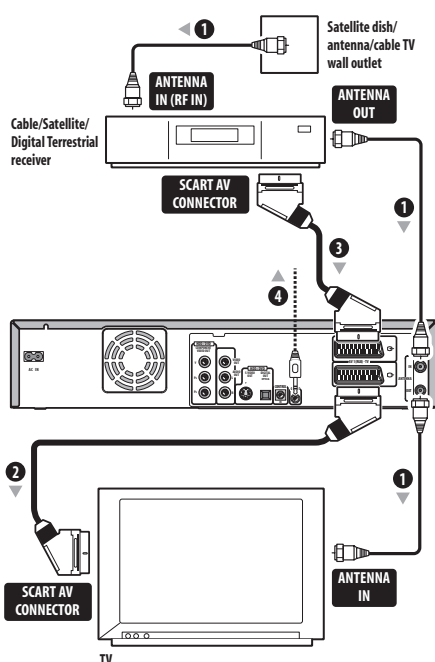
Using the setup on this page you can:

- Record any channel by selecting it on the cable box, satellite receiver or digital terrestrial receiver.
- Change channels and set timer recordings on the external receiver using the GUIDE Plus+[®] system (via the G-LINK[™] cable, and after setting up).



Important

- Do not connect this recorder to your TV 'through' an external VCR, satellite receiver or other component. Always connect each component directly to your TV or AV amplifier/receiver.



1 Connect RF antenna cables as shown.

This enables you to watch and record TV channels.

2 Use a SCART cable (not supplied) to connect the AV1(RGB) AV connector to a SCART AV connector on your TV.

This enables you to watch discs.

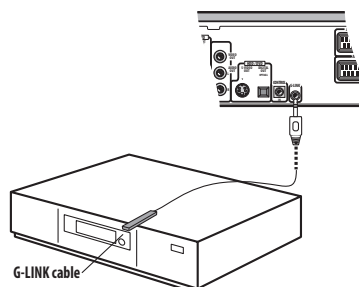
3 Use another SCART cable to connect the AV2(INPUT 1/DECODER) AV connector to a SCART AV connector on your cable box/satellite/digital terrestrial receiver.

This enables you to record scrambled TV channels.

4 Plug the supplied G-LINK[™] cable to the G-LINK[™] jack.

This enables you to control the tuner in the external receiver using the GUIDE Plus+[®] system.

Position the IR transmitter end of the G-LINK[™] cable so that the IR receiver on your cable/satellite/digital terrestrial receiver will pick up the control signals (see diagram).



See the manual that came with your cable/satellite/digital terrestrial receiver if you're not sure where the IR receiver is on the front panel. Alternatively, experiment with the remote control, operating it from very close range until you find the place where the receiver responds.



Tip

- This recorder has a 'through' function which allows you to record a TV program from the built-in TV tuner in this recorder while watching a video playing on a separate video component. (To use this feature when the recorder is in standby, **Power Save** must be set to **Off**—see *Power Save* on page 109).

Note

¹ The diagram shows SCART video connections, but you can alternatively use any of the other audio/video connections.

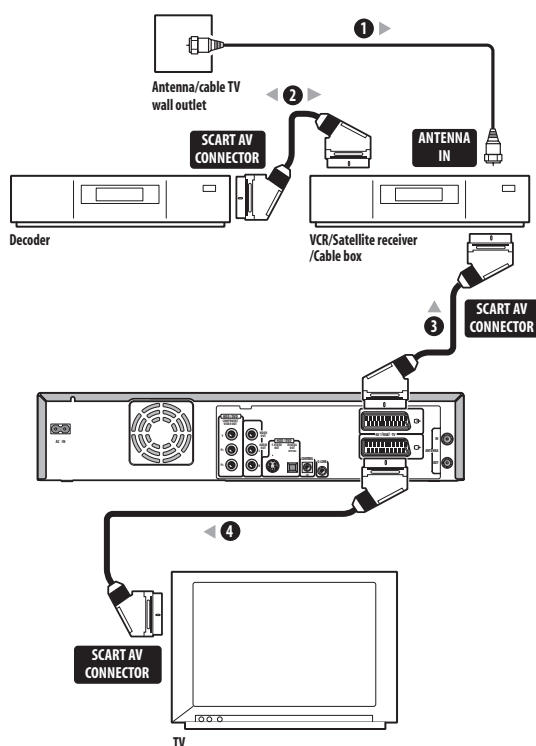
Connecting an external decoder box (1)

If you have an external, dedicated decoder box for your satellite or cable TV system, use the setup described on this page. See the previous page for how to connect the G-LINK™ cable.



Important

- Do not connect your decoder box directly to this recorder.
- Information from the decoder (for example, relating to pay TV services), is only viewable when this recorder is off (in standby).
- For timer recording to work properly on this recorder, the satellite receiver/cable box/second VCR must also be switched on during recording.
- It is not possible to watch one TV program and record another using this setup.



1 Connect the cable from the antenna/cable TV outlet to the antenna input on your VCR/satellite receiver/cable box.

2 Use a SCART cable (not supplied) to connect your decoder to your satellite receiver/cable box/second VCR.

See the manual for your decoder box for more detailed instructions.

3 Use a SCART cable to connect your satellite receiver/cable box/VCR to the AV2(INPUT 1/ DECODER) AV connector on this recorder.

4 Use a SCART cable to connect the AV1(RGB)-TV AV connector to your TV.

Connecting an external decoder box (2)

If you only have a decoder, connect it to this recorder and your TV as shown on this page.¹

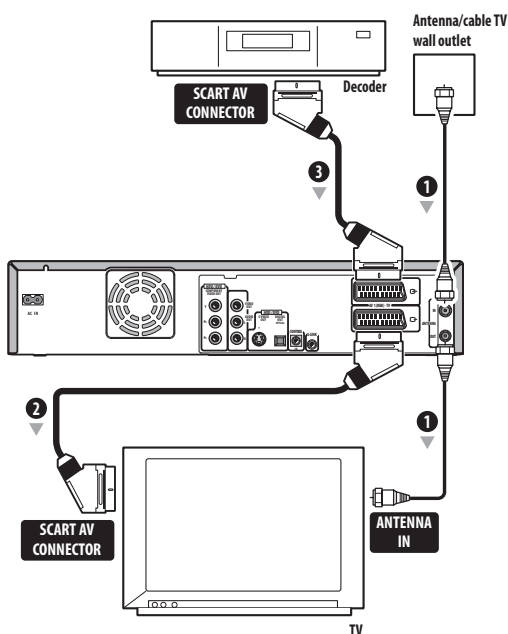
Using the setup on this page you can:

- Record scrambled channels received using the recorder's built-in TV tuner.



Important

- Do not connect this recorder 'through' a VCR, satellite receiver or cable box. Always connect each component directly to your TV or AV amplifier/receiver.



1 Connect RF antenna cables as shown.

This enables you to watch and record TV channels.

2 Use a SCART cable (not supplied) to connect the AV1(RGB)-TV AV connector to a SCART AV connector on your TV.

This enables you to watch discs.

3 Use another SCART cable to connect the AV2(INPUT 1/DECODER) AV connector to a SCART AV connector on your decoder box.

This enables you to record scrambled TV channels.

Note

¹ In order to use this setup, you will need to make the following settings from the Initial Setup menu:

- Set the **AV2/L1 In** setting to **Decoder** from the Initial Setup menu (see *AV2/L1 In* on page 111).
- From the **Manual CH Setting** screen, set the **Decoder** setting for the scrambled channels to **On** (see *Manual CH Setting* on page 110).

Connecting to an AV amplifier/receiver

To enjoy multichannel surround sound from commercial DVD discs you need to connect this recorder to an AV amplifier/receiver using the digital optical output.¹

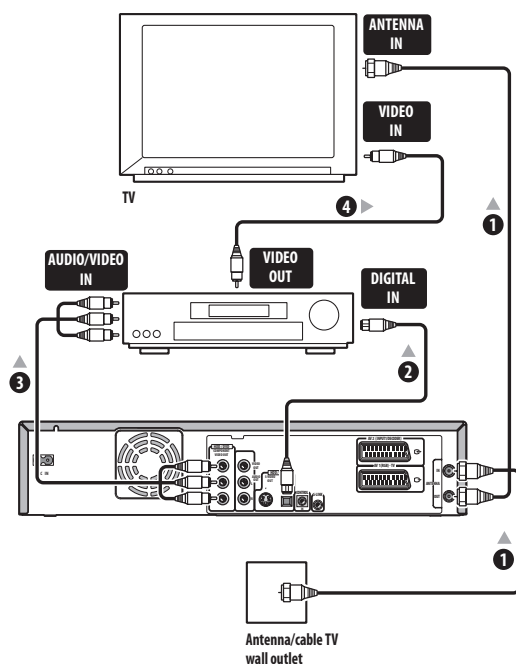
In addition to a digital connection, we recommend also connecting using the stereo analog connection for compatibility with all discs and sources.

You'll probably also want to connect a video output to your AV amplifier/receiver. Use the ordinary video output (as shown here), or the S-video output.²



Important

- Noise may be output from your speakers if the recorder is not set up to work with your AV amplifier/receiver properly (see *Audio Out Settings* on page 112).



1 Connect RF antenna cables as shown.

This enables you to watch and record TV channels.

2 Connect the DIGITAL OUT OPTICAL jack on this recorder to an optical digital input on your AV amplifier/receiver.

This enables you to listen to multichannel surround sound.

3 Connect the analog AUDIO OUT and VIDEO OUT jacks on this recorder to an analog audio and video input on your AV amplifier/receiver.

- VHS audio is only output through the analog audio outputs — select Analog as the input on your AV amplifier (not Auto).

4 Connect the AV amplifier/receiver's video output to a video input on your TV.



Important

- Do not connect this recorder to your TV 'through' an external VCR using A/V cables. Always connect it directly to your TV.

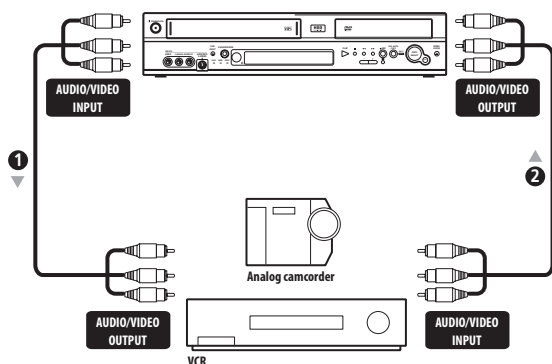
Note

¹ VHS audio is not output from the digital output.

² VHS video is not output from the **S-VIDEO** jack.

Connecting other AV sources

Connecting an analog camcorder or a second VCR



1 Connect a set of audio and video outputs of your VCR or camcorder to the front panel inputs of this recorder.

This enables you to record tapes from your camcorder or second VCR.

- You can't record the S-video input signal to VHS tape.
- This connection isn't necessary if you are using the **AV2(INPUT 1/DECODER)** SCART connector for audio/video input and output (as explained in step 1).

2 Connect a set of audio and video inputs of your camcorder or VCR to a set of outputs on this recorder.

This enables you to record from this recorder to your camcorder or second VCR.

- The **S-VIDEO** and **COMPONENT** video jacks output a video signal during HDD and DVD playback only. For VHS playback, connect using the **VIDEO OUT** jack.
- Alternatively, you can use the **AV2(INPUT 1/DECODER)** SCART connector for audio/video input and output with just one SCART cable.

Plugging in

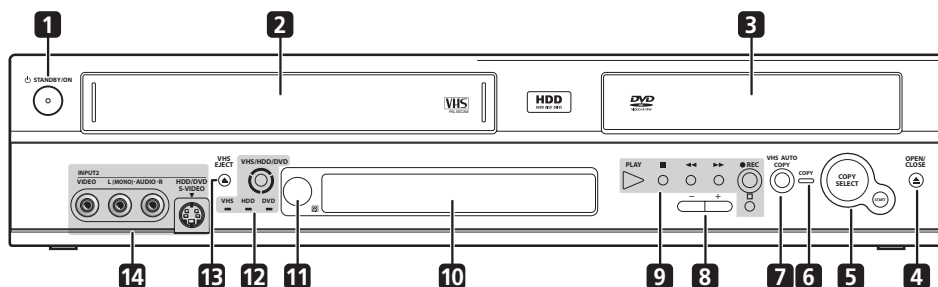
After checking all the connections, plug in the recorder.

1 Use the supplied power cable to connect this recorder to a power outlet.

Chapter 3

Controls and displays

Front panel

**1** **STANDBY/ON**

Press to switch the recorder on/into standby.

2 **VHS tape slot****3** **Disc tray****4** **DVD OPEN/CLOSE**

Press to open/close the disc tray.

5 **COPY SELECT**

Use to select the copy mode: HDD-DVD, HDD-VHS or DVD-VHS.

START

After selecting the copy mode, press to start copying.

6 **COPY indicator**

Lights when copying between VHS and HDD/DVD.

7 **VHS AUTO COPY**

Use to set the DVD recording mode so that the contents of the VHS tape will fit onto one DVD disc.

8 **+/-**

Use to change channels, skip chapters/tracks, etc.

9 **Playback / recording controls**

Press to start or restart playback.



Press to stop playback.



Press to start reverse or forward scanning. Press again to change the speed.



Press to start recording. Press repeatedly to set the recording time in 30 minute blocks.



Press to stop recording.

10 **Front panel display**

See *Display* on page 25 for details.

11 **IR remote sensor****12** **VHS / HDD / DVD**

Press to switch between VHS, HDD and DVD. The indicators light to show the selected function.

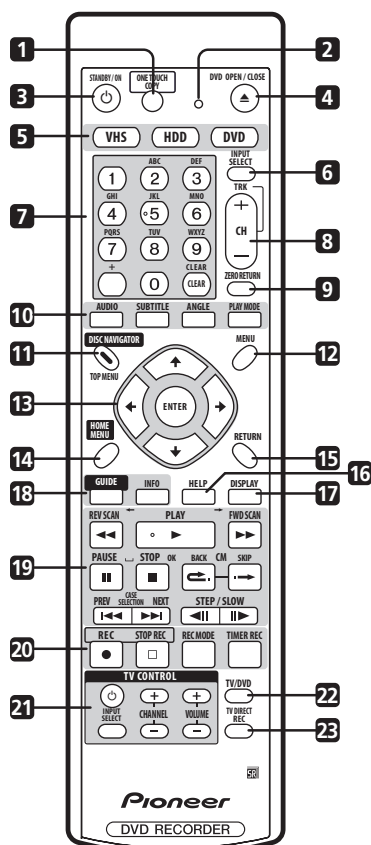
13 **VHS EJECT**

Press to eject the VHS tape currently loaded.

14 **Front panel inputs** (page 13)

The front panel input jacks (audio, video) are especially convenient for connecting camcorders and other portable equipment.

Remote control



1 ONE TOUCH COPY (page 76)

Press to start One Touch Copy of the currently playing title from HDD to DVD (and vice-versa) or the currently playing VHS material to HDD.

2 Remote control indicator

Lights when setting up the remote control for use with a TV (page 118) and when setting the remote control mode (page 115).

3 STANDBY/ON

Press to switch the recorder on/into standby.

4 DVD OPEN/CLOSE

Press to open/close the disc tray.

5 VHS / HDD / DVD (page 31)

Press to switch between VHS, HDD and DVD.

6 INPUT SELECT (page 58)

Press to change the input to use for recording.

7 Alphanumeric buttons, + and CLEAR

Use the number buttons for track/chapter/title selection; channel selection, and so on. The same buttons can also be used to enter names for titles, discs and so on.

Use the + button to enter non-alphanumeric characters and symbols.

Use **CLEAR** to clear an entry and start again.

8 CH +/- (page 32)

Press to change the channel of the built-in TV tuner.

TRK +/- (page 72)

Use to optimize the picture quality of VHS playback.

9 ZERO RETURN (page 74)

Press during VHS fast forward/rewind to have the VCR stop winding the tape when the counter reaches 00:00:00.

10 GUIDE Plus+® Action buttons and DVD playback functions

When in the GUIDE Plus+® system, these buttons act as the Red, Green, Yellow and Blue Action buttons (the functions of these buttons change according to the GUIDE Plus+® Area. (page 39)

AUDIO (page 32, 69)

Changes the audio language or channel. (When the recorder is stopped, press to change the tuner audio.)

SUBTITLE (page 68)

Displays/changes the subtitles included in multilingual DVD-Video discs.

ANGLE (page 70)

Switches camera angles on discs with multi-angle scenes.

PLAY MODE (page 65)

Press to display the Play Mode menu (for features such as search, repeat and program play).

11 DISC NAVIGATOR (page 62, 90) / TOP MENU (page 34)

Press to display the Disc Navigator screen, or the top menu if a DVD-Video disc is loaded.

12 MENU (page 34)

Press to display the disc menu if a DVD-Video disc is loaded.

When in the GUIDE Plus+® system, use to jump directly to the Menu bar.

13 and ENTER

Used to navigate all on-screen displays. Press **ENTER** to select the currently highlighted option.

14 HOME MENU (page 36)

Press to display the Home Menu, from which you can navigate all the functions of the recorder.

15 RETURN

Press to go back one level in the on-screen menu or display.

16 HELP

Press for help on how to use the current GUI screen.

17 DISPLAY (page 36)

Displays/changes the on-screen information displays.

18 GUIDE Plus+® system controls**GUIDE**

Press to display the GUIDE Plus+® screen; press again to exit.

INFO

Press to see additional information for the highlighted item in a GUIDE Plus+® screen.

19 Playback controls (page 33)**◀◀ REV SCAN / FWD SCAN ▶▶** (page 64)

Press to start reverse or forward scanning. Press again to change the speed.

▶ PLAY

Press to start playback.

⏸ PAUSE

Press to pause playback or recording.

■ STOP

Press to stop playback.

⏮ CM BACK (commercial back)

Press repeatedly to skip progressively backward through the audio or video playing.

⏭ CM SKIP (commercial skip)

Press repeatedly to skip progressively forward through the audio or video playing.

⏮ PREV / NEXT ▶▶

Press to skip to the previous or next title/chapter/track/folder; or to display the previous or next menu page.

Use to display the previous/next page of a Guide Plus+® screen.

◀◀ STEP/SLOW II ▶▶ (page 64)

During playback, press to start slow-motion playback; while paused, press to show the previous or next video frame.

Use to display the previous/next day of a Guide Plus+® screen.

20 Recording controls (page 31)**● REC**

Press to start recording. Press repeatedly to set the recording time in blocks of 30 mins.

□ STOP REC

Press to stop recording.

REC MODE (page 52)

Press repeatedly to change the recording mode (picture quality).

TIMER REC (page 40)

Press to set a timer recording from the GUIDE Plus+® system.

21 TV CONTROL (page 118)

After setting up, use these controls to control your TV.

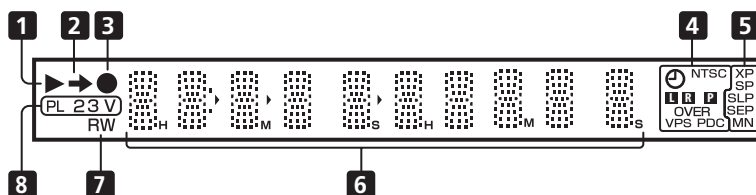
22 TV/DVD (page 33)

Press to switch between 'TV mode', in which you get the picture and sound from the TV's tuner, and 'DVD mode', in which you get picture and sound from the recorder's tuner (or an external input).

23 TV DIRECT REC (page 53)

Press to start recording whatever channel your TV is set to.

Display



1 ►

Lights during playback; blinks when playback is paused.

2 →

Lights when copying.

3 ●

Lights during recording; blinks when recording is paused.

4 ⌚ (page 40)

Lights when a timer recording has been set. (Indicator blinks if the timer has been set to DVD but there isn't a recordable disc loaded, or the timer has been set to HDD but the HDD is not recordable.)

NTSC

Lights when playing NTSC format video.

Ⓛ Ⓡ (page 111)

Indicates which channels of a bilingual broadcast are recorded.

Ⓟ (page 110)

Lights when the component video output is set to progressive scan.

OVER (page 112)

Lights when the analog audio input level is too high.

VPS / PDC (page 54)

Lights when receiving a VPS/PDC broadcast during a VPS/PDC-enabled timer recording.

5 Recording quality indicators (page 51)

XP

Lights when the recording mode is set to **XP** (best quality).

SP

Lights when the recording mode is set to **SP** (standard play).

LP / SLP

Lights when the recording mode is set to **LP** (long play) or **SLP** (super long play).

EP / SEP

Lights when the recording mode is set to **EP** (extended play) or **SEP** (super extended play).

MN

Lights when the recording mode is set to **MN** (manual recording level) mode.

6 Character display

7 R / RW

Indicates the type of recordable DVD loaded: DVD-R or DVD-RW.

8 PL (page 90)

Lights when a VR mode disc is loaded and the recorder is in Play List mode.

2 3 (page 115)

Shows the remote control mode (if nothing is displayed, the remote control mode is 1).

V

Lights when an unfinalized Video mode disc is loaded.

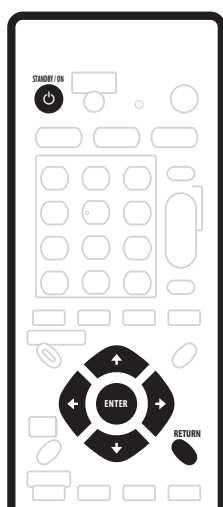
Chapter 4

Getting started

Switching on and setting up

When you switch the recorder on for the first time, you can make several basic settings using the Setup Navigator feature. This takes you through setting the clock, the internal TV tuner and the video output settings.

If you're using the recorder for the first time, we strongly recommend you use the Setup Navigator before starting to use the recorder.





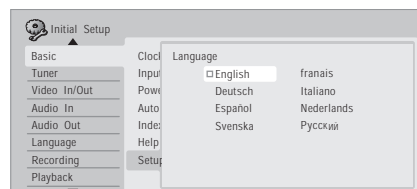
1 Switch on your TV and set the video input to this recorder.

2 Press the  STANDBY/ON button on the remote control or the front panel to switch on.

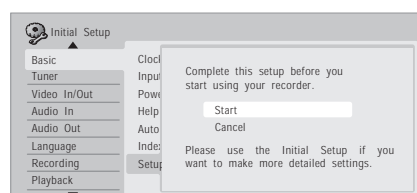
When you switch on for the first time, your TV should display the Setup Navigator screen. (If the Setup Navigator doesn't appear, you can also access it from the Initial Setup menu; see page 109).


- If this recorder is connected to a compatible TV using a fully-wired 21-pin SCART cable, the recorder will take a few seconds to download country, TV screen size and language information. (Check the manual that came with your TV for compatibility information.)

3 Use the / buttons to choose a language, then press ENTER.

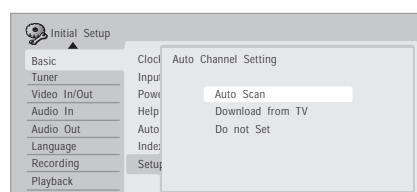


4 Press ENTER to start setting up using the Setup Navigator.



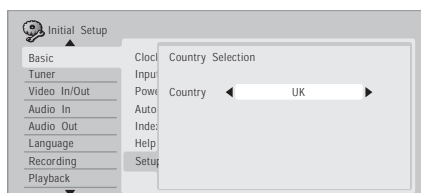
- If you don't want to use the Setup Navigator, press  to select **Cancel**, then press **ENTER** to exit the Setup Navigator.

5 Select the Auto Channel Setting ('Auto Scan' or 'Download from TV'), or 'Do not set', then press ENTER.



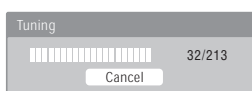
- Select **Do not set** if you want to skip setting up the channels (because they have already been set up, for example).
- You can only use the **Download from TV** feature if you connected this recorder to your TV using a fully-wired 21-pin SCART cable connected to the **AV1(RGB)-TV** connector, and if your TV supports this function (check your TV's instruction manual for more details).

- Use the **←/→** buttons to choose your country, then press **ENTER**.



Auto-tuning channels

The **Auto Scan** option automatically scans and sets the channel presets.

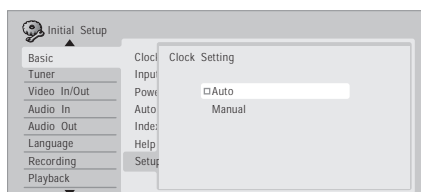


Downloading channels from your TV

Use the **Download from TV** option to download all the channels that your TV is tuned to.



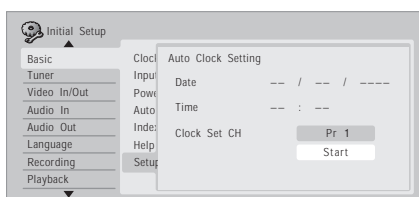
6 Select 'Auto' for automatic time setting, or 'Manual' to set the clock manually, then press ENTER.



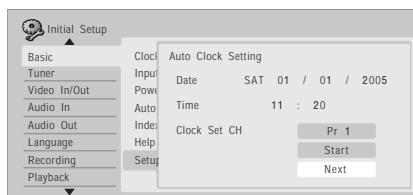
Auto clock setting

Some TV channels broadcast time signals together with the program. This recorder can use these signals to set the clock automatically.

Set 'Clock Set CH' to the channel preset number that broadcasts a time signal, then move the cursor down to 'Start' and press ENTER.



The recorder takes a short while to set the time. After you see that the time has been set, select **Next** to proceed.



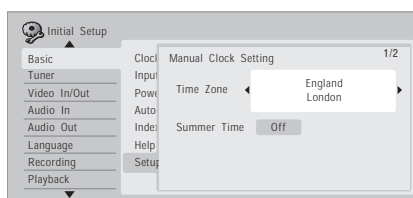
If the time could not be set automatically, press **RETURN** to go back to the previous screen and select **Manual**.

Manual clock setting

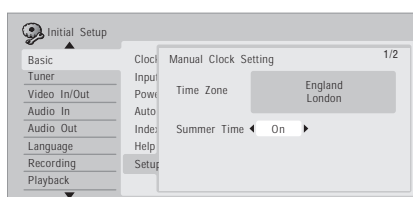
If no stations in your area are broadcasting time signals, you can set the clock manually.

Use the **←/→ buttons to set your time zone.**

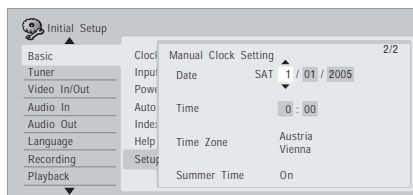
You can set this by selecting a city or a time relative to GMT.



Press ↓ then use the **←/→ buttons to select 'On' or 'Off' for summer time, then press ENTER.** Select **On** if you are currently using summer time.



Set the date (day/month/year) and time, then press ENTER to make all the settings.

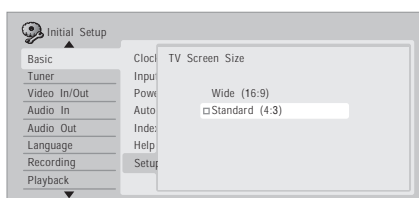


Use the **↑/↓** buttons to change the value in the highlighted field.

Use the **←/→** buttons to move from one field to another.

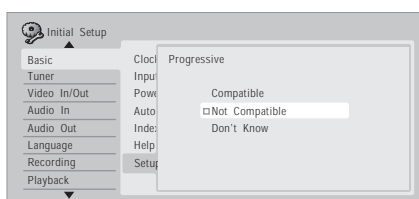
- You can go back to the previous screen at anytime in the Setup Navigator by pressing **RETURN**.

7 Select the TV screen type, 'Wide (16:9)' or 'Standard (4:3)'.



Use the **↑/↓** buttons to select, then press **ENTER**.

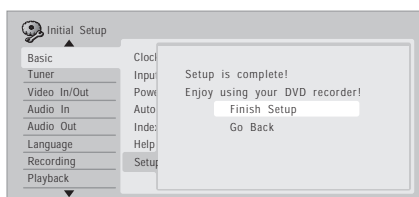
8 Is your TV compatible with progressive scan video?



Use the **↑/↓** buttons to select **Compatible**, **Not Compatible**, or **Don't Know**, then press **ENTER**.

- Note that progressive scan video is only output through the **AV1(RGB)-TV** connector and the component video outputs.¹

9 Press **ENTER** to exit the Setup Navigator, or select 'Go Back' if you want to start again.



That completes basic setup using the Setup Navigator.

Other settings you can make

After setting up using the Setup Navigator, you should be ready to start enjoying your DVD recorder. It's possible, however, that you may want to make a couple of additional settings, depending on how the recorder is set up for terrestrial TV broadcasts.

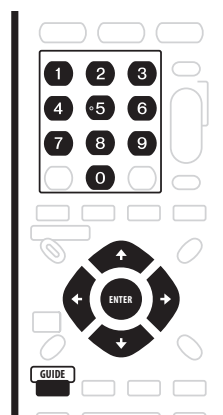
- **Manual channel setting** – This setting lets you skip channels where there is no station, as well as manually tune to stations. See *Manual CH Setting* on page 110.
- **Setting up the remote to control your TV** – You can set up the supplied remote control to control many brands of TV. See *Setting up the remote to control your TV* on page 118.
- If for any reason you need to cancel the setup process before it's completed, you will be asked the next time you switch on whether you want to start setting up again, or whether to leave it until later.

Setting up the GUIDE Plus+® system

The GUIDE Plus+® system is a free, interactive on-screen television programming guide. The system offers program listings for all major channels, one-touch recording, search by genre, recommendations according to your profile and more.

For the GUIDE Plus+ system to function correctly, it is important that you set the language and country correctly in the Setup Navigator, and that you have performed a scan for available channels, as these are all used by the GUIDE Plus+ system. If any of these things are not yet set, please run the Setup Navigator first (see *Switching on and setting up* on page 26).

TV listings information is received via 'host channels'. In order to receive the correct TV listings information for your country or region you need to set up the GUIDE Plus+ system and 'download' the TV listings information. The initial download can take up to 24 hours, but once this is done, all future updates are automatic.



Note

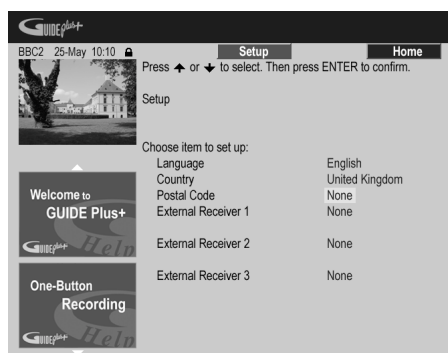
1. Progressive scan video is not available during VHS video playback.

1 Press GUIDE to display the GUIDE Plus+ setup menu.

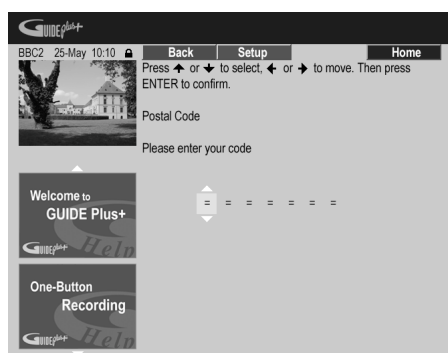


The language and country settings are already set to whatever you selected in the Setup Navigator.

2 Use the ↑/↓ buttons to select Postal Code.



3 Use the number and cursor buttons to enter your postal code.



The system uses your postal code to identify which TV listings data is correct for the area in which you live, so it is important that you enter it correctly.

4 If you are using an external receiver (such as a satellite receiver) with the supplied G-LINK cable, complete this step, otherwise jump to step 5 below.



- See *Connecting to a cable box, satellite receiver or digital terrestrial receiver* on page 17 for more on using the supplied G-LINK cable.
- Select **External Receiver 1, 2 or 3**, then press **ENTER**. (If you have just one external receiver, use **External Receiver 1**. You can add further receivers in **2** and **3** if you need to.)

After pressing **ENTER**:

- Select your reception method (**Terrestrial, Cable or Satellite**).
- Select your provider (if applicable).
- Select the brand of your external receiver.
- Identify which input your external receiver is connected to.

After completing these steps the recorder will try and communicate with your external receiver and change the channel via the G-LINK cable. If the channel was successfully changed, select **Yes** to confirm.

If the channel did not change, select **No**. The GUIDE Plus+ system will try other codes assigned to your external receiver. If none of the codes changes the channel successfully, tune your external receiver to the host channel for your country (refer to step **5** below) and leave it on overnight. The recorder needs to be in standby. It will wake up automatically and download new codes from the host channel. The next day, try this setup process again:

- Press **GUIDE** to display the GUIDE Plus+ setup menu.
- Press **↑** to highlight the Menu bar, then use **→** to reach the Setup area and select Setup.
- Continue setting up from the start of this step again.

If your external receiver still doesn't respond to the G-LINK controller, please call customer support and report the brand and model of your external receiver.

See also *FAQ and troubleshooting* on page 48.

5 Identify the host channel for your country.

The TV listings information available in the GUIDE Plus+ system is distributed throughout Europe by selected broadcasters called *host channels*. It is important that the host channel for your country is correctly identified in order to receive listings information (EPG download).

A If you are not using an external receiver, this recorder will automatically scan all channels for the host channel:

- Leave the recorder in standby overnight (do *not* leave it switched on).

B If you are using an external receiver, you need to identify the host channel from the table below:

Country/ Region	Host channels	Comments
Austria	Eurosport	
Belgium (Flemish)	Music Factory (TMF)	
France	Canal+	Analog only
Germany	Eurosport	
Italy	Sport Italia	Analog only
Netherlands	Music Factory (TMF), Eurosport	Use TMF if you live in Amsterdam, Eindhoven or Rotterdam.
Spain	Tele 5	Analog only
Switzerland	Eurosport	
UK	ITV, Eurosport	ITV is analog only. Use Eurosport if you are a SKY subscriber and you no longer have a terrestrial antenna.

- Tune your external receiver to the appropriate host channel and leave the receiver on and the recorder in standby overnight.

C If you use both an external receiver and this recorder as sources, follow the instructions above for setting up without an external receiver. Only if this is unsuccessful try the external receiver method.

About EPG download

- EPG data can only be received when the recorder is in standby. (When not using the recorder, therefore, please switch it into standby.) If you're using an external receiver, leave this on when EPG data is downloading.
- If you cannot receive any of the host channels (see the above table) then you won't be able to use the GUIDE Plus+ system. In this case do not set the postal code (or set Country to **Other**) in the GUIDE Plus+ setup screen. (When the GUIDE Plus+ service starts in your area, set the postal code again.)

- Even if you can't use the EPG functions where you live, you can still set VIDEO Plus+ timer recordings and manual recordings — see *Setting a timer recording* on page 54.
- The front panel display shows **EPG** when receiving data. If you power on the recorder during an EPG download, the download is canceled.
- EPG data may be received several times a day. All updates are automatic.
- When downloading EPG data, the recorder may sound as though it is on. This is normal.

Checking the downloaded data the following day

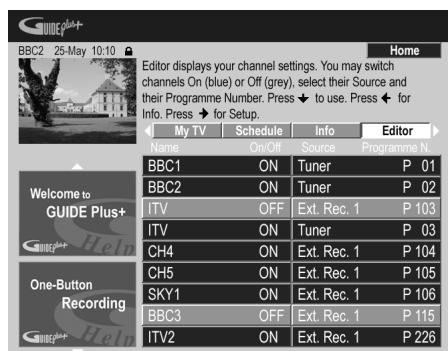
1 Press GUIDE.



You should see a grid filled with channel logos and TV listings information. Use the **↑/↓** buttons to review the list. If you notice that there are channels missing, or that there are channels in the list that you don't get, go to the Editor screen:

- Press **↑** repeatedly until the Menu bar is highlighted.
- Press **→** until Editor is highlighted. The main area of the screen now shows a list of channels. Those that are turned **ON** are displayed in the grid; those that are **OFF** are hidden. Use the **↑/↓/←/→** buttons to move down the list and turn channels **ON** or **OFF** as necessary.
- For any channel that you turn **ON**, the GUIDE Plus+ system will need to know how it is received (the source) and on which program number. The source may be the built-in tuner of this recorder, or an external receiver. The program number is the number on which the channel can be found on its receiving device/source. The entry in the Editor screen must match this number for correct recording of that channel.
- The above is especially important for the 'host channel'. Please make sure that the host channel is always switched **ON**.

2 Use the number buttons to change the program numbers as you like.

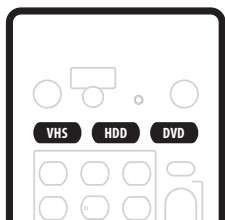


3 When you're done, press the BLUE Action button (Home) to get back to the GUIDE Plus+ home screen.

- You can find detailed information on using the GUIDE Plus+ system in the following chapter.

Selecting the VHS, hard disk or DVD for playback and recording

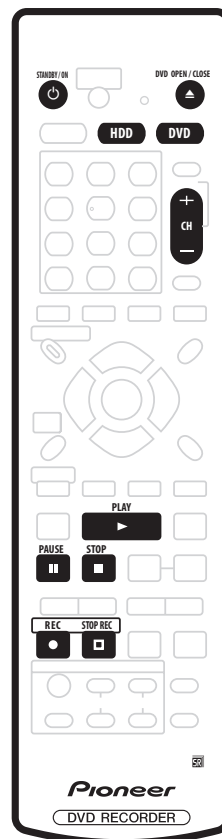
The **VHS**, **HDD** and **DVD** buttons (remote control and front panel) are used to select the VHS video recorder, hard disk (HDD) or DVD for playback and recording. The indicator in the front panel display shows which is currently selected. See *VHS playback and recording* on page 71 for more on using the built-in VCR.



Making your first HDD or DVD recording

This quick guide shows you how to make a basic recording of a TV program on either the HDD, or to a recordable DVD.

Recording is covered in much more detail in chapter 6 (*HDD and DVD Recording*).



1 If they aren't already on, switch on your TV and this recorder.

Press **STANDBY/ON** to switch on.

- Make sure that the video input on your TV is set to this recorder.

2 Press **HDD** to record to the HDD, or **DVD** to record to a recordable DVD.

If you choose to record to the HDD, skip to step 5 now.

3 Press **OPEN/CLOSE** to open the disc tray.

4 Load a blank DVD-R or DVD-RW disc with the label side face-up, using the disc guide to align the disc.

- When you load a new, blank DVD-RW disc, the recorder will take a moment to initialize it for recording.
- Blank DVD-R discs are ready for Video mode recording out of the box.

5 Use the **CH +/-** buttons to select the TV channel you want to record from.

- You can also use the **+/-** buttons on the front panel if the recorder is stopped.
- Channel presets are numbered 1–99.

- If the recorder is connected to your TV using a SCART cable and your TV supports Direct Recording, it's possible to quickly start recording whatever channel your TV is tuned to. See *Direct recording from TV* on page 53 for detailed instructions.
- 6 Press ● REC to start recording.**
- By default, the recording will be in **SP** (standard play) mode, which will give you around two hours of recording from a blank DVD disc. The different recording modes and their recommended uses are covered in more detail in the chapter on Recording.
 - You can pause recording by pressing **II PAUSE**. Press **● REC** or **II PAUSE** again to restart recording.
- 7 When you want to stop recording, press**
☐ **STOP REC.**

Playing back your recording

The TV program you just recorded should be on the HDD or DVD disc as a single title with one or more chapters.

- Press **▶ PLAY** to start playback.
- If you want to stop playback before the end of the recording, press **■ STOP**.

Using the built-in TV tuner

Changing TV channels

There are three different ways to select TV channels. Note that you can't change the TV channel during playback, recording or during recording standby.



- **CH +/-** buttons on the remote
- **Number buttons** on the remote – For example, to select channel 4, press **4** then **ENTER**; for channel 34, press **3**, **4**, **ENTER**.¹
- **+/-** buttons on the front panel

Note

1. Channel presets are numbered 1–99.

Changing audio channels

You can change the audio channel of the broadcast or external input signal.



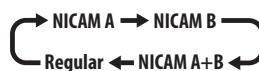
- Press **AUDIO** to change the audio.

The current audio channel is displayed on-screen.

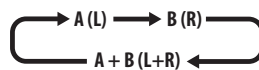
- If the NICAM audio setting (see *Nicam Select* on page 111) is set to **NICAM** and you are watching a NICAM broadcast, you can switch between **NICAM** and **Regular** (non-NICAM) audio.



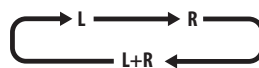
- If the NICAM broadcast is bilingual, you can also select the language.



- You can also select the language for a non-NICAM bilingual broadcast.



- When watching a recording made from an external input with **Bilingual** recording selected (see *External Audio* on page 111), you can switch the audio channel between left (**L**), right (**R**) or both (**L+R**).



Note

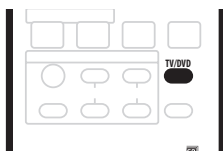
- When recording to the HDD with HDD Recording Format set to Video Mode On, to DVD in Video mode, or on the **LPCM** setting, only one channel of a bilingual broadcast is recorded. In this case, decide which language you want to record before recording by setting the Bilingual Recording setting (see *Bilingual Recording* on page 111).

Switching between TV and DVD

When the recorder is stopped or recording you can choose whether to have the audio/video from the built-in TV tuner (or external input) play on your TV ('DVD mode'), or watch the channel that the TV is currently set to ('TV mode').

During playback or when a menu is being displayed on-screen, the sound and video is always routed to your TV and is unaffected by the **TV/DVD** mode setting.

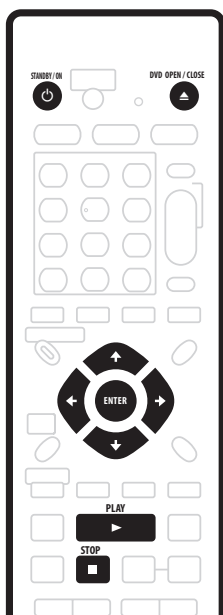
Note that the recorder must be connected to your TV using a SCART cable to be able to use this feature.



- Press **TV/DVD** to switch between TV mode and DVD mode.

Basic playback

This section shows you how to use your recorder for playback of discs (DVD, CD, etc.), and for playback of video from the HDD. More playback features, such as repeat and program play, are covered in *HDD and DVD playback* on page 61. VHS video playback is covered in *VHS playback and recording* on page 71.



Important

- Throughout this manual, the term 'DVD' means playback-only DVD-Video discs and DVD-R/RW. If a function is specific to a particular kind of DVD disc, it is specified.
- Some DVD-Video discs don't allow certain playback controls to operate at certain points in the disc. This is not a malfunction.

1 Press **STANDBY/ON** to switch on.

Also turn on your TV and make sure that it is set to the correct video input.

2 Press **HDD** to playback from the HDD, or **DVD** to play a DVD.

If playing video from the HDD, skip to step **5** below.

3 Press **▲ OPEN/CLOSE** to open the disc tray.

4 Load a disc.

Load a disc with the label side facing up, using the disc tray guide to align the disc (if you're loading a double-sided DVD-Video disc, load it with the side you want to play face down).

- If you want to play a DTS audio CD, please first read the note on page 35.

5 Press **▶ PLAY** to start playback.

- If you're playing a DVD-Video or Video CD, a disc menu may appear when you start playback. Use the **↑/↓/←/→** buttons and **ENTER** to navigate DVD disc menus, and the number buttons and **ENTER** for Video CD menus.
- When playing video from the HDD, playback will automatically stop after the end of a title is reached.
- See the following sections for more details on playing specific kinds of discs.












6 To stop playback, press **■ STOP**.

7 When you've finished using the recorder, eject the disc and switch the recorder back into standby.

- To open/close the disc tray, press **▲ OPEN/CLOSE**. Remove the disc before putting the recorder into standby.
- Press **STANDBY/ON** to switch the recorder into standby.









Playing DVD discs

The table below shows the basic playback controls for DVD-Video, and recordable DVD discs.

	Press to start playback. If RESUME is displayed on-screen, play-back starts from the place last stopped.
	Press to stop playback. You can resume playback from the same point by pressing ▶ PLAY . (Press ■ STOP again to cancel the resume function.)
	Pauses playback, or restarts playback when paused.
	Press to start scanning. Press repeatedly to increase the scanning speed.
	Press to skip to previous/next chapter/title. (During playback you can also use the front panel +/- buttons.)
	<i>Except VR mode:</i> During playback, enter a chapter number then press ENTER to skip directly to that chapter within the currently playing title. On some discs, you can also use the number buttons to select numbered items in the disc menu. <i>VR mode only:</i> During playback, enter a title number then press ENTER . <i>All:</i> Press CLEAR to clear a number entry and start again.
	(Commercial back/skip) Each press skips backward/forward progressively up to a maximum of ten minutes forward or three minutes back.
	During playback, press to start slow-motion playback. Press repeatedly to change the playback speed. While paused, press to advance a single frame in either direction.
	Press to display the menu of a DVD-Video disc.
	Use the cursor buttons to navigate DVD-Video disc menus; press ENTER to select items.
	Press to return to the previous level of a DVD-Video disc menu.








Playing from the HDD

The table below shows the basic playback controls when playing video recorded on the hard disk (HDD).

	Press to start playback. If RESUME is displayed on-screen, play-back starts from the place last stopped. Playback automatically stops after the end of a title is reached.
	Press to stop playback. You can resume playback from the same point by pressing ▶ PLAY . (Press ■ STOP again to cancel the resume function.)
	Pauses playback, or restarts playback when paused.
	Press to start scanning. Press repeatedly to increase the scanning speed.
	Press to skip to previous/next chapter/title. (During playback you can also use the front panel +/- buttons.)
	During playback, enter a title number then press ENTER to skip directly to that title. Press CLEAR to clear a number entry and start again.
	(Commercial back/skip) Each press skips backward/forward progressively up to a maximum of ten minutes forward or three minutes back.
	During playback, press to start slow-motion playback. Press repeatedly to change the playback speed. While paused, press to advance a single frame in either direction.

Playing CDs and WMA/MP3 discs











The table below shows the basic playback controls for audio CDs¹, and WMA/MP3 files.

	Press to start playback.
	Press to stop playback.
	Pauses playback, or restarts playback when paused.
	Press to start scanning. Press again to increase the scanning speed. (There are two scan speeds; the current scan speed is shown on-screen.)
	Press to skip to previous/next track (or folder for WMA/MP3 disc). (During playback you can also use the front panel +/- buttons.)
 	During playback, enter a track number then press ENTER to skip directly to that track. Press CLEAR to clear a number entry and start again.

Playing Video CD/Super VCDs

The table below shows the basic playback controls for Video CD/Super VCDs.

Some discs feature Playback Control (PBC for short) menus. These discs show PBC in the display when you load them and display a menu on-screen from where you can select what to watch.²

	Press to start playback. <i>Video CD only:</i> If RESUME is displayed on-screen, playback starts from the place last stopped.
	Press to stop playback. <i>Video CD only:</i> You can resume playback from the same point by pressing ▶ PLAY . (Press ■ STOP again to cancel the resume function.)
	Pauses playback, or restarts playback when paused.
	Press to start scanning. Press repeatedly to increase the scanning speed.
	Press to skip to previous/next track. When a PBC menu is displayed, press to display the previous/next page. (During playback you can also use the front panel +/- buttons.)
 	During playback, enter a track number then press ENTER to skip directly to that track. Press CLEAR to clear a number entry and start again. While a PBC menu screen is displayed, use to select numbered menu items.
	<i>Video CD only:</i> Each press skips backward/forward progressively up to a maximum of ten minutes forward or three minutes back. Note that this function doesn't work when playing in PBC mode.
	During playback, press to start slow-motion playback. Press repeatedly to change the playback speed (forward only). While paused, press to advance a single frame (forward only).
	Press to display the disc menu of a Video CD/Super VCD playing in PBC mode.

Note

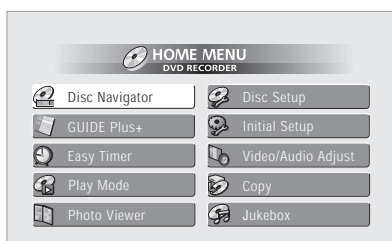
1. If you want to play a DTS audio CD, make sure the recorder is connected to a DTS-compatible amp/receiver with a digital connection. Noise will be output through the analog outputs. Also make sure that **STEREO** is selected using the **AUDIO** button (see *Switching audio channels* on page 69).
2. When playing in PBC mode, some playback features, such as search, repeat and program play are not available. You can play a PBC Video CD/Super VCD in non-PBC mode by pressing **▶▶▶** to start playback instead of **▶ PLAY**.

Using the Home Menu

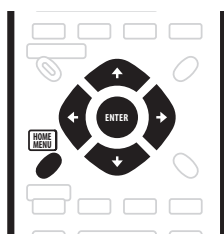
From the Home Menu screen you can access all the features of the recorder.

Note that some options in the Home Menu may be grayed out sometimes, indicating that they are not available at the present time. For example, the Photoviewer option is grayed out unless there is a disc loaded that contains JPEG image files.

Press **HOME MENU** to display the Home Menu screen:



Use the **↑/↓/←/→** buttons followed by **ENTER** to select the option you want. To exit the Home Menu, press **HOME MENU**.

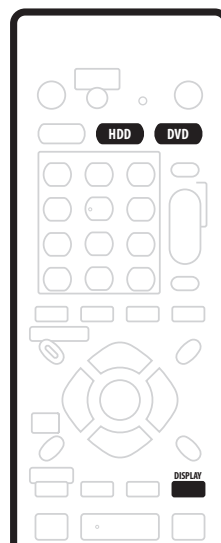


Home menu options

Disc Navigator (page 62, page 90)	Disc Setup (page 104)
GUIDE Plus+ (page 39)	Initial Setup (page 109)
Easy Timer (page 55)	Video/Audio Adjust (page 106)
Play Mode (page 65)	Copy (page 76)
Photo Viewer (page 102)	Jukebox (page 99)

Displaying disc information on-screen

You can display various on-screen information about the disc loaded or the HDD.



1 Press **DISPLAY** repeatedly to display/change the on-screen information.

- Press once to show the HDD and removable disc (DVD, etc.) activity together. Press again to show the status of just the currently selected playback/recording device (HDD or removable disc).
- The on-screen display automatically disappears after 150 minutes.

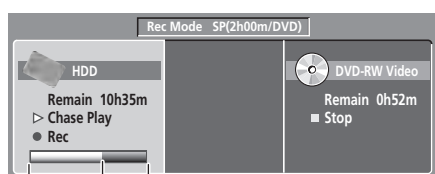
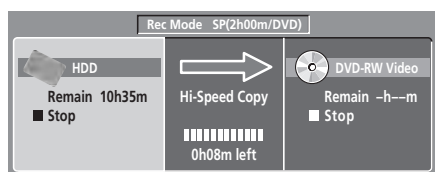
2 To hide the information display, press **DISPLAY** repeatedly until it disappears.

The example displays below are a guide only; actual displays vary according to the disc loaded, etc.

HDD and removable disc activity display

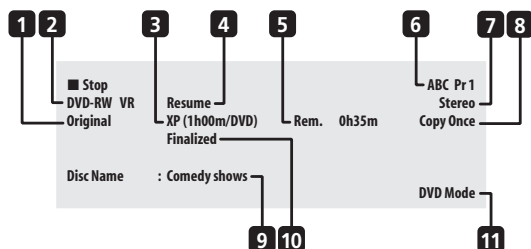
Press **DISPLAY** once to see the HDD and removable disc (DVD, etc.) activity. Use the **HDD** and **DVD** buttons to switch between the two kinds of display.

The example displays below show high-speed copying from HDD to DVD, and HDD chase playback.



Recording time
Relative playback position

Stop display 1



1 DVD-RW Original / Play List

If a VR mode disc is loaded, this shows whether playback is currently set to **Original** or **Play List**.

During preview playback of the Copy List, this shows **Copy List**.

2 Disc type and mode

Shows the disc type (**HDD**, **DVD-R**, **DVD-RW**, **CD**, etc.), and the disc mode for recordable DVD, if applicable (**VR** or **Video**).

3 Recording mode and time

Shows the current recording mode (**XP**, **SP**, **LP**, etc.), and the total recording time of the disc.

4 Resume

Shows **Resume** if playback can be resumed from the last place stopped.

5 Recording time remaining

Shows the approximate recording time left on the disc in the current recording mode.

6 Preset name and number

Shows the preset name and preset number for the currently selected channel.

7 Audio mode

Shows the broadcast audio mode for the current channel preset (**Mono**, **Stereo**, etc.).

8 Copy control information

Shows recording restrictions of the current channel program.

9 Disc name

Shows the disc name.

(For CDs, this area shows playable files other than CD audio tracks; for example, **Multi-format: WMA/MP3**.)

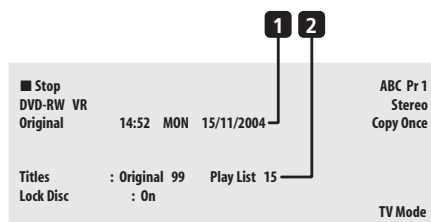
10 Finalized

Shows **Finalized** if a recordable DVD is finalized.

11 TV/DVD mode

Shows the current mode of the recorder (see *Switching between TV and DVD* on page 33).

Stop display 2

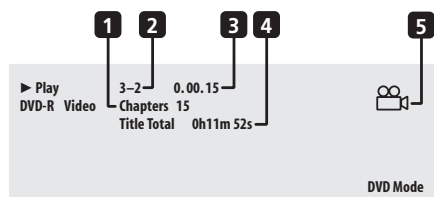


1 Date and time

2 Number of titles/tracks on disc

For a VR mode DVD-RW, the number of Original and Play List titles are shown separately.

Play display 1



1 Number of chapters in title

2 Current title and chapter number

(For CD/Video CD/Super VCD, shows current track; for WMA/MP3, shows current folder and track; for JPEG disc, shows current folder and file.)

3 Elapsed title time

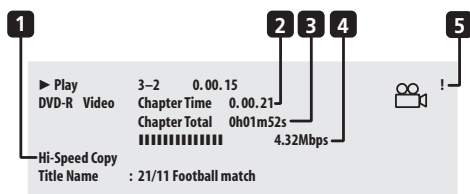
(For CD, WMA, MP3, Super VCD, shows elapsed track time; for Video CD, shows elapsed disc time.)

4 Total running time of title

5 Angle indicator

Lights during multi-angle scenes.

Play display 2



1 Chase playback, simultaneous record/playback, copy, disc back-up

Indicates that recording, copying or back-up is in progress.

2 Elapsed chapter time

3 Total running time of chapter

4 Data transfer rate

Shows the current data rate being read from the disc.¹

5 Copy protected material (!)

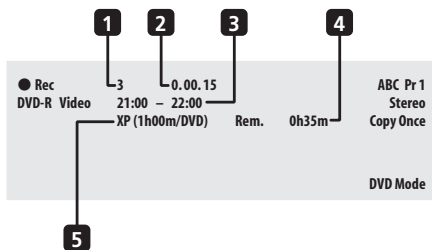
Shows '!' if the playback material is copy-once protected.



Tip

- When using the simultaneous play and record feature, the display shows information for playback only.
- During real-time copy, the copy source playback information is displayed.
- The Video mode disc displays become the same as a DVD-Video disc once the disc is finalized.
- The total recording time figure shown in parenthesis is calculated based on a 12cm/4.7GB disc at the displayed record setting.
- Recording and playback times for TV recordings are approximately 0.1% shorter than the actual time. This is because of the slightly different frame rates of TV broadcasts versus DVD.
- The frame number is shown next to the elapsed time display when the disc is paused.
- **Copy Once** or **Can't Record** messages may appear in the stop or recording displays. These indicate that the broadcast TV program contains copy control information.

Recording display



1 Current title number

2 Elapsed recording time

3 Timer recording start and stop times

Shows the start and stop times if the current recording is a timer recording.

4 Remaining recording time available

Shows the amount of space left on the disc in the current recording mode.

5 Recording mode

Shows the current recording mode (**XP**, **SP**, **LP**, etc.), and the total recording time of the disc.

Note

1. Data transfer rate shows the amount of video and audio information recorded on the disc. It is not an indication of picture/audio quality.

Chapter 5

Using the GUIDE Plus+® electronic program guide

The GUIDE Plus+ system

The GUIDE Plus+® system* is a free, interactive on-screen television programming guide.¹ The system offers program listings for all major channels, one-touch recording, search by genre, recommendations according to your profile and more. The GUIDE Plus+ system is a convenient way to find out what's on right now or during the coming week, by channel or by genre. The GUIDE Plus+ system also allows you to automatically set your viewing and recording selections quickly and easily.

In order to receive the correct TV listings information for your country or region you need to set up the GUIDE Plus+ system and 'download' the TV listings information. If you haven't already done this, please turn to *Setting up the GUIDE Plus+® system* on page 28 before proceeding.

Note that all the recording features of the Guide Plus+ system apply only to DVD and HDD recording. It is not possible to set the system to record to VHS.

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GEMSTAR-TV GUIDE INTERNATIONAL, INC. AND/OR ITS RELATED AFFILIATES ARE NOT IN ANY WAY LIABLE FOR THE ACCURACY OF THE PROGRAM SCHEDULE INFORMATION PROVIDED BY THE GUIDE PLUS+ SYSTEM. IN NO EVENT SHALL GEMSTAR-TV GUIDE INTERNATIONAL, INC. AND/OR ITS RELATED AFFILIATES BE LIABLE FOR ANY AMOUNTS REPRESENTING LOSS OF PROFITS, LOSS OF BUSINESS, OR INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE PROVISION OR USE OF ANY INFORMATION, EQUIPMENT, OR SERVICES RELATING TO THE GUIDE PLUS+ SYSTEM.

Using the GUIDE Plus+ system

All the various features and areas are color-coded for ease of navigation. All screens (with the exception of some setup screens) have the following common elements:



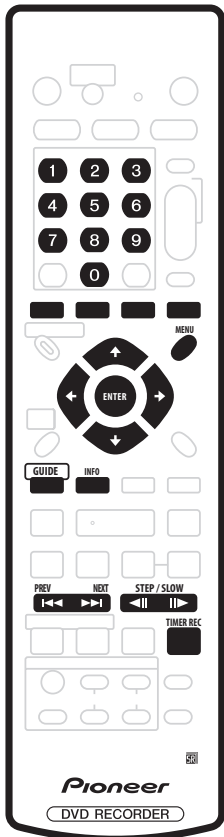
- **Grid** – Displays TV listings information for the next seven days by channel and time.
- **Menu bar** – Gives access to the various areas of the GUIDE Plus+ system.
- **Information box** – Shows short program descriptions or help menus.
- **Action bar** – Color-coded Action buttons change function depending on the area.
- **Video window** – Allows you to continue watching the current program while using the GUIDE Plus+ system.
- **Information panels** – Display program promotions or instructions on the GUIDE Plus+ system.

Note

¹ The GUIDE Plus+ system can't be used when the Input Line System is set to **525 System** (see also *Input Line System* on page 109).

Navigating the GUIDE Plus+ system

The table below shows a summary of the remote buttons you'll use to navigate the GUIDE Plus+ system.



Key	What it does
GUIDE	Press to access the GUIDE Plus+ system (also use to exit the GUIDE Plus+ system).
↑/↓/←/→	Use to navigate screens (highlight an item).
RED, GREEN, YELLOW, BLUE	Action buttons that change functionality depending on the Area.
MENU	Press to jump directly to the Menu bar.
TIMER REC	Press to go directly to the Schedule area.

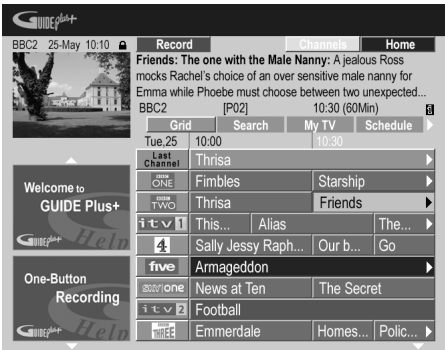
Key	What it does
INFO	Press to display extended information for the current program.
ENTER	Press to confirm a selection or to leave the GUIDE Plus+ screen.
Number buttons	Use for numeric entry.
◀◀ / ▶▶	Press to select the previous/next page of information (in the grid, for example).
◀ / ▶	Press to select the previous/next day.

One-Button-Record

The **RED** Action button (Record) is visible anytime you can highlight a program title, including from the Grid, after a search, or in your recommendations in the My TV area.

The program name, date, channel, recording start and end times are all set automatically when you set a timer recording using One-Button-Record. You can edit the settings if you want to anytime before the recording is due to start (see *Editing a scheduled recording* on page 44).

1 Use the ↑/↓/←/→ buttons to highlight a program title.



2 Press the **RED** Action button (Record). The program is now set for recording. When the program is due to start, the recorder will switch to the correct channel and start recording¹.

- You can review the shows you have set to record in the Schedule Area (see also *The Schedule Area* on page 44).

Note

¹ Please note that recording times set using the GUIDE Plus+ system do not automatically change to reflect any changes that may occur in the program broadcast schedules.

Lock / Unlock video window

When you enter the GUIDE Plus+ system, the channel you were watching remains visible in the video window. The date stamp above the window lets you know the channel, date and time.

The default setting for this window is 'locked', as indicated by a closed padlock icon above the video window. When locked, the video window always shows the channel you were previously watching as you move up and down through the listings grid.

If you prefer, you can unlock the video window so that as you highlight different channels in the listings grid, the current program showing on that channel is shown in the video window.

1 Use the ↑/↓/←/→ buttons to highlight a channel logo.



Channel logos are displayed to the left of program titles.

2 Press the RED Action button (Unlock).

The padlock icon above the video window becomes unlocked. It remains unlocked for the remainder of your current TV viewing session.

If you want to lock the video window again, follow the same procedure. The **RED** Action button will now act as Lock.

Channel mosaic screen

You can switch the display style of channels in Grid Area, Schedule Area or My TV Area from a list to a mosaic of channel icons by pressing the **YELLOW** Action button. Select the channel icon you want using the cursor buttons, then press **ENTER** to return to the previous screen on that channel.

Areas

The GUIDE Plus+® system consists of seven *Areas*. All Areas can be accessed from the Menu bar.

- **Grid** – The GUIDE Plus+ system Home Area. Displays TV listings information for the next seven days by time and channel.
- **Search** – Search for TV programs by category (eg., Sport), subcategory (eg., Football) or keyword.
- **My TV** – Set up a profile and receive recommendations according to your preferences.
- **Schedule** – Shows all scheduled recordings.
- **Info** – Area for additional information, such as weather (not available in all regions).
- **Editor** – Change channel settings.
- **Setup** – Set up the GUIDE Plus+® system.

The Grid Area

The Grid screen is the main TV listings screen of the GUIDE Plus+ system and is the first screen that you see when you press **GUIDE**. You can see TV listings for the next seven days, starting with the current day.

When you highlight a program in the Grid, you can see information about it in the Information Box, including title, synopsis, channel, source, time and length. If there is an **i** symbol in the Information Box, it means that there is an extended synopsis available. Press the **INFO** button to see it.

In some countries, you can also see a rating for a particular program (mostly movies). These ratings are provided by local partners, such as TV magazines.

From the Grid Area you can:

- View and scroll through program listings
- Read program synopsis
- Tune to a program that's currently showing¹
- Set a program to record
- Lock or unlock the video window.
- Access Information panels.

Note

¹ If you're using an external tuner (satellite tuner, for example), there will be a short delay of a couple of seconds before it tunes to the channel after selecting it. This is normal.

Browsing the Grid

Use the following remote buttons to browse the grid:

↑/↓/←/→ (cursor buttons) – Navigate the Grid

◀◀/▶▶ – Previous / next page

◀◀/▶▶ – Previous / next day

BLUE Action button – Return to the current time/date in the Grid.

ENTER – Press on the current selection to exit the GUIDE Plus+ system and start watching the program

The Search Area

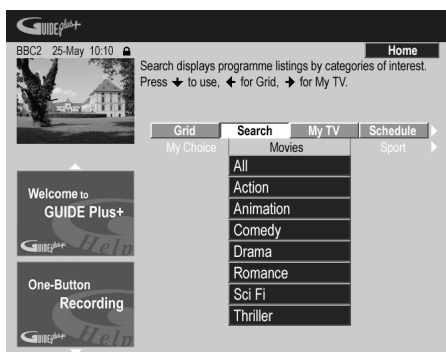
From the Search Area you can:

- Search by category
- Search by subcategory
- Search by keyword
- Read program synopsis
- Tune to a program that's currently showing
- Set a program to record
- Access Information panels.

Searching

You can search for programs by category, subcategory or by keyword (My Choice). Categories for searching include Movies (purple), Sport (green), Children (blue) and Others (teal). In some countries there is a further subcategory available called 'Tip of the Day'. These are programs recommended by a local partner, such as a TV magazine.

- 1 Select 'Search' from the Menu bar.
- 2 Use the ↑/↓/←/→ buttons to select a category and a subcategory.



- If you choose **All** as the subcategory, all programs in the category you selected will show up in the search results.

3 Press ENTER to start the search.

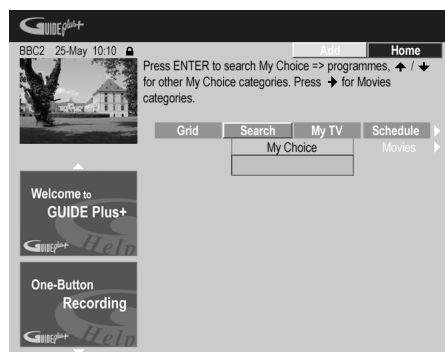
The search results are shown sorted by time and date.

- If no search results are displayed, it means there are no programs for the current day that match your search criteria.

Using My Choice keywords for a search

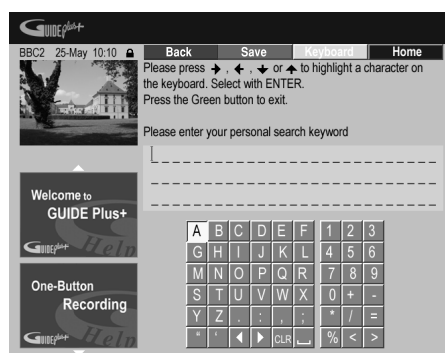
In addition to the standard categories, you can also set your own keywords.

1 Press ← (cursor left) to access My Choice.



2 Press the YELLOW Action button to add a keyword.

3 Enter a keyword to appear in the menu.



Use the ↑/↓/←/→ buttons followed by **ENTER** to select characters from the on-screen keyboard. When you're finished, press the **GREEN** Action button to exit and continue.

4 Press ENTER to start a keyword search.

- You can delete or edit keywords using the **RED** and **GREEN** Action buttons.
- When you have set more than two keywords, an **All** subcategory automatically appears which allows you to search for all your keywords.

My TV Area

The My TV Area allows you to set up a personal profile. You can define a profile by channels, themes and/or keywords. As soon as a personal profile has been set, the GUIDE Plus+ system continuously scans the TV listings for the next seven days. Whenever you access the My TV Area, a list of programs matching your profile appears.

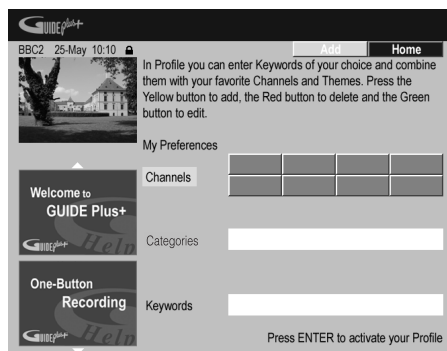
From the My TV Area you can:

- Set up a profile by channel, theme and/or keyword.
- Edit and delete profiles.
- Read program synopsis
- Tune to a program that's currently showing
- Set a program to record
- Access Information panels.

Setting up a profile

You can set up a profile with any combination of up to 16 channels, four categories and 16 keywords.

- 1 Select 'My TV' from the Menu bar.
- 2 Press the YELLOW Action button to set a profile.



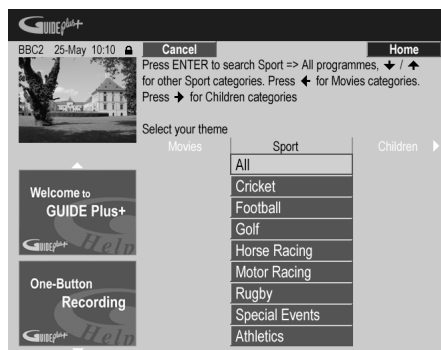
Channels is now highlighted.

- 3 To add a channel to your profile, press the YELLOW Action button.



Select a channel from the mosaic of channel icons and press **ENTER**. Repeat this step to add up to 16 channels.

- 4 To add a theme to your profile, highlight 'Themes' and press the YELLOW Action button.



Select a theme from the Search Area categories and press **ENTER**. Repeat this step to add up to four categories.

- 5 To add a keyword to your profile, highlight 'Keywords' and press the YELLOW Action button.



Use the **↑/↓/←/→** buttons followed by **ENTER** to select characters from the on-screen keyboard. When you're finished, press the **GREEN** Action button to exit and continue.

- 6 Press **ENTER** to activate your profile.

- You can add up to 16 keywords by repeating step 5.
- You can edit or delete your profile using the **RED** and **GREEN** Action buttons.

The Schedule Area

The Schedule Area is where you can set, see, edit and delete scheduled (timer) recordings. (See also *Setting a timer recording* on page 54 for further timer recording features.)

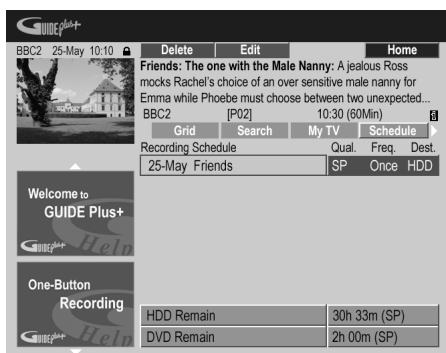
From the Schedule Area you can:

- Edit or delete a One-Button-Recording.
- Set, edit or delete a VIDEO Plus+VIDEO Plus+ recording.
- Set, edit or delete a manual recording.

Editing a scheduled recording

You can edit any parameter in a scheduled recording, or delete it if you no longer require it.

1 Highlight the left tile of a scheduled recording.



- If you only want to edit the recording quality, frequency, destination, timing or genre settings, skip to step 6 below.

2 Press the GREEN Action button (Edit).

3 Use the cursor and number buttons to edit the recording date, start time, end time and channel.



Use the ↑/↓ (cursor up/down) buttons or the number buttons to edit.

Note

¹ This mode maximizes the recording quality to fit on to a single DVD disc. Can also be used when recording to HDD.

Press the **GREEN** Action button to go to continue, or the **RED** Action button to go back.

4 Enter a name for the scheduled recording.



Use the ↑/↓/←/→ buttons followed by **ENTER** to select characters from the on-screen keyboard.

After entering the whole name, press the **GREEN** Action button to continue.

5 Highlight the right recording tile.

6 Press the RED Action button (Quality) to change the recording quality.



Select from **AUTO**¹, **XP**, **SP**, **LP**, **EP**, **SLP**, **SEP** or **MN** (if manual recording is set to **On**.)

7 Press the GREEN Action button (Frequency) to change the recording frequency.



Select from the various options for one-time, daily and weekly recordings.

8 Press YELLOW Action button (Destination) to select the recording destination.



Select from **DVD**, **HDD** or **HDDr** (Auto Replace Recording)¹.

- Auto Replace Recording is only available as an option with regular daily or weekly recordings.

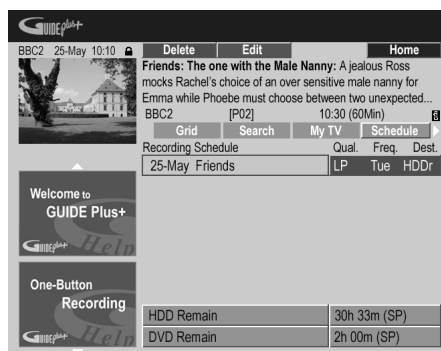
9 Press → (cursor right) to access the extended recording options:



- If you want to record to a particular HDD genre, use the **YELLOW** Action button (**Genre**) to select one.
- Use the **GREEN** Action button (**Timing**) to add extra time to the end of the recording (+0, +10, +20, +30 or VPS/PDC² (V-P)).
- Press ← (cursor left) to display the standard recording options again.

Deleting a scheduled recording

1 Highlight the left tile of a scheduled recording.



2 Press the RED Action button (Delete).

The scheduled event is deleted.

Note

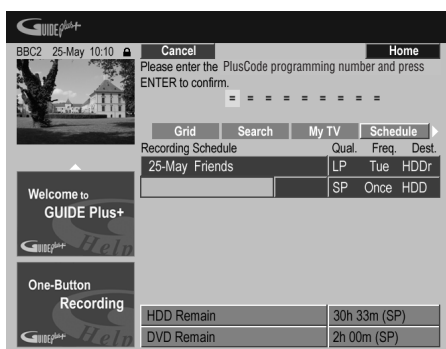
- For a DVD timer recording, if **Optimized Rec** (see *Optimized Rec* on page 113) is set to **On** (and VPS/PDC is off), the recorder will adjust the recording quality to try and fit the recording on the disc. If the recording will not fit onto the disc even on MN1 recording quality then the Recovery Recording feature will automatically make the recording to the HDD instead.
 - If there is very little free space left on the HDD, an Auto Replace Recording may not complete successfully.
 - If the HDD is being used for playback or high-speed copying when an Auto Replace Recording is due to start, the new timer recording will not replace the old one. However, the next time the timer recording starts, both of the older two programs will be erased.
- If you set the timer recording to use VPS/PDC, you must switch the recorder into standby before the timer recording is due to start for it to work correctly. For non-VPS/PDC timer recordings there is no need to switch the recorder into standby.
 - Optimized Recording will not work if VPS/PDC is on.
 - Up to 8 timer recordings can be set with VPS/PDC.
 - VPS/PDC cannot be set for recordings made from an external input, or when the recording mode is set to **AUTO**.

Setting a VIDEO Plus+®* recording

- 1 Select 'Schedule' from the Menu bar.



- 2 Press the RED Action button (VIDEO Plus+).
- 3 Use the number buttons to enter a PlusCode programming number.



- If you live in an area not yet covered by the GUIDE Plus+ system you may also have to input a channel number. Follow the on-screen display to do this.

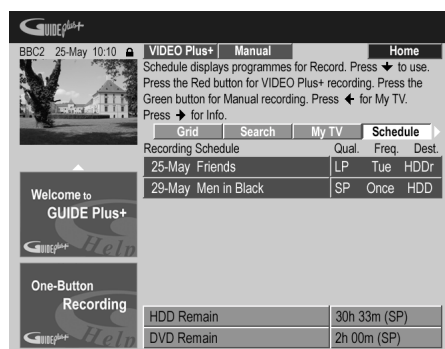
- 4 Press ENTER to confirm.

* VIDEO Plus+ and PlusCode are trademarks of Gemstar Development Corporation.

The VIDEO Plus+ system is manufactured under license from Gemstar Development Corporation.

Setting a manual recording

- 1 Select 'Schedule' from the Menu bar.



- 2 Press the GREEN Action button (Manual).
- 3 Use the number and ↑/↓/←/→ buttons to enter the recording date, then press the GREEN Action button (Next).



- 4 In the same way, enter the recording start time, followed by the GREEN Action button (Next) to confirm.

- 5 Enter the recording end time in the same way, followed by the GREEN Action button (Next) to confirm.

6 Use the number buttons to enter a channel number, then press the GREEN Action button (Next) to confirm.



Alternatively, you can press the **YELLOW** Action button (**Mosaic**) and use the **↑/↓/←/→** buttons to select a channel from the mosaic, followed by **ENTER**.

The Info Area

This area is reserved for additional information such as news, weather reports, stock quotes, and so on, and varies by region. (Note that this feature is not available in all countries/regions.)

The Editor Area

The Editor Area is the central location for you to manage your channels. Any changes you make here will affect what is displayed in the Grid Area. The Editor Area is mainly used when setting up the GUIDE Plus+ system to make any manual changes as necessary.

You can also use the Editor Area if new channels become available in your area, or if you change from cable to satellite, say, or move house.

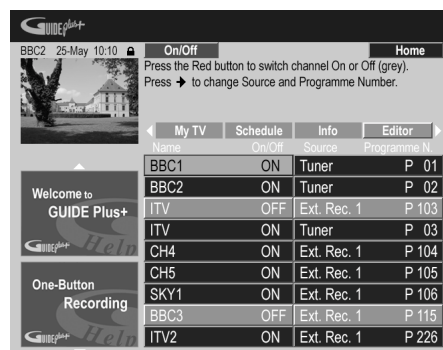
From the Editor Area you can:

- Display/hide channels in the grid (switch the channel on/off).
- Select a channel source (**Tuner**, **Ext. Rec 1**, **Ext. Rec. 2**, etc.).
- Enter a channel program number.

Switching a channel on/off

You can choose whether or not to display a channel in the Grid Area by switching the channel on or off in the Editor Area.

1 Select 'Editor' from the Menu bar.

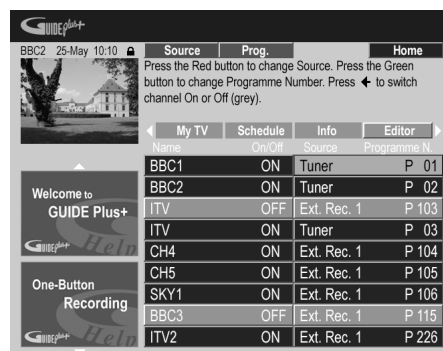


2 Highlight the left channel tile of the channel you want to switch on or off.

3 Press the RED Action button to switch the channel on or off.

Changing the source and program number

1 Select 'Editor' from the Menu bar.



2 Highlight the right channel tile of the channel you want to make a change to.

3 Press the RED Action button to change the channel source, or the GREEN Action button to enter a program number.

Each press of the **RED** Action button changes the channel source (**Tuner**, **Ext. Rec 1**, etc.). To set a program number, use the number buttons to enter a program number then press **ENTER**. (When set to **Tuner**, make sure that the program number matches the preset number of this recorder for what you want to record).

The Setup Area

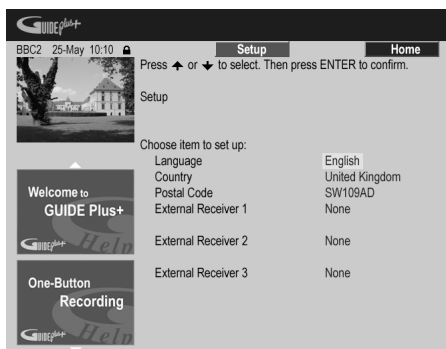
The Setup Area is where you can set up the GUIDE Plus+ system for your particular region, TV reception conditions, and so on.

Making changes to your GUIDE Plus+ setup

1 Select 'Setup' from the Menu bar.



2 Highlight the part you want to change.



You can change the Language, Country, Postal Code¹ and the External Receiver settings.

3 Press ENTER to confirm.

FAQ and troubleshooting

This FAQ covers only a few questions. For a complete list please consult the GUIDE Plus+ website at: www.europe.guideplus.com



- *When I tried setting up my external receiver I could not get any of the attempts to work, what should I do?*

A: There could be several reasons why your external receiver could not be controlled.

– The connections could be wrong. Make sure that the G-LINK cable is connected to the G-LINK connector on the recorder and the IR blaster is in front of the external receiver, pointing towards the IR receiver of your external receiver. See *Connecting to a cable box, satellite receiver or digital terrestrial receiver* on page 17.

– The code that is listed under your brand could be wrong. Please try other codes for your brand under satellite, cable or terrestrial. Go to the Setup Area and choose one of the three options (cable, satellite or terrestrial) that you have not already tried. Follow the on-screen prompts to make sure that the GUIDE Plus+ system can change channels on your external receiver. If it does not work, repeat the process, choosing different reception and external receiver combinations until you have tried all the codes for your brand of receiver that are already in the GUIDE Plus+ system. If it still does not work, see below on how to receive new codes overnight.

– The unit has not yet received new codes. The nightly data downloads frequently include new codes for controlling external receivers. Please tune your external receiver to your local host channel and leave it on overnight. Switch this recorder into standby. The next morning, please perform the GUIDE Plus+ setup again to see if your external receiver can now be controlled.

– The external receiver that you use is currently not supported. If, after leaving your external receiver on overnight, and doing the Reception and External Receiver Setup again, it still does not respond, please call Customer Support to report your brand and model.

Note

¹ Making changes to the Country or Postal Code settings may require a new download of TV listings information. This can take up to 24 hours.

- *My external receiver was successfully setup. However I have found that when the GUIDE Plus+ system has to change to a channel with a 3-digit program number in the external receiver's preset, it does not work. It looks like the GUIDE Plus+ system can only send two digits.*

With the number of channels increasing, the number of digits has increased as well. While older boxes use only 2 digits, newer boxes require up to 4. It is possible that you selected an older code for your brand during set-up. Please access the Setup Area, select External Receiver and repeat the setup for your brand. (Note: Every time you see the on-screen question about whether the receiver has changed to a certain channel, the GUIDE Plus+ system has sent a different code). Try all the different codes until your GUIDE Plus+ system can control your external receiver correctly. If you have no success, try to receive new codes overnight.

- *I used to receive data through my terrestrial antenna or analog cable without a set-top box. Now, I have "upgraded" to a satellite system or to digital cable with external receiver. What should I do to receive data for the GUIDE Plus+ system?*

You can try to receive your host channel through your new reception method. If you have problems to receive data we recommend that you keep your analog terrestrial or cable connection only to receive data this way. It is important that you identify your host channel correctly in the Editor Area.

- *After I performed the initial set-up I found that the line-up for all the channels received via the external set top box is incorrect. How do I correct this?*

You can change the line-up in the editor according to your preferences. Access the Editor Area. Select the channels that you would like to change. Change the source and preset number according to your preferences.

- *I performed the set-up but after many hours I still have a blank EPG what is going wrong?*

There are several possibilities:

- Connections are wrong. See *Connecting up* on page 13 to double check everything.
- The initial setup was completed incorrectly. Try setting it up again (see *Setting up the GUIDE Plus+® system* on page 28).
- Your cabling and setup is OK, but the recorder has not been connected for enough time to receive the TV listings data. Leave the recorder in standby overnight.

– For external receiver users only: The connections and setup are OK, but the external receiver was not tuned to the correct host channel. Check the list of host channels (see step 5 of *Setting up the GUIDE Plus+® system* on page 28) and leave the recorder in standby and the external receiver on overnight tuned to the correct host channel.

– You live in a country/region where the GUIDE Plus+ system is not yet available. Check the list of countries to see if you are in a region that is supported.

- *I used the One-Button-Record feature (red Action button) to set a recording, but I recorded the wrong channel.*

If the channel to be recorded is received via the external receiver first make sure that the external receiver was left switched on. Next, in the Editor Area, make sure that the channel to be recorded is correctly set: Access the Editor Area. Check the source and program number of the channel that you wanted to record. Change the source and preset numbers if incorrect.

If you are recording from the recorder's internal tuner (the **Tuner** setting), make sure that the program number is the same as the preset number set on this recorder. If they are different, go to the Editor Area and change the program number to match the recorder's preset number.

- *The TV listings information doesn't update.*

The latest TV listings information is automatically downloaded by the recorder overnight. This only happens if the recorder is in standby; if the recorder is left on, it will not download. When not using the recorder, please switch it into standby.

Data downloads can take several hours. The front panel display shows **EPG** when downloading. If you switch the recorder on while **EPG** is displayed, the download will be canceled.

- *The GUIDE Plus+ system is not supported in my area, but when I switch the recorder into standby, after a while the front panel display shows EPG.. Can I stop this from happening?*

If the GUIDE Plus+ system is not supported in your area, please do not set the postal code in the GUIDE Plus+ setup (see *Setting up the GUIDE Plus+® system* on page 28). When the service starts in your area, please set the postal code again.

Chapter 6

HDD and DVD recording

About DVD recording

This recorder can record on both DVD-R and DVD-RW media. The main difference between the two is that DVD-R discs can only be recorded once, while DVD-RW can be recorded, erased and re-recorded many times.

Both types of disc can be initialized for *Video mode* or *VR mode* recording. Each has its advantages, and it depends on what you want to do with the recording which mode you choose.

If you want to edit your recordings in any significant way, VR mode offers greater possibilities for cutting, copying, and changing the way the video is presented.

Video mode is less flexible when it comes to editing, but it has the advantage that it is compatible with standard DVD players (many of which won't play VR mode discs¹).

Once a disc is initialized for a particular mode, all recording on that disc will be in that mode.

**Important**

- The maximum number of titles and chapters that can be recorded on a VR mode disc is 99 and 999 respectively; on a Video mode disc the maximum number of titles and chapters is 99 and 99. No more recording is possible on a disc that already contains the maximum number of chapters/titles.
- Unfinalized Video mode discs are not usable in other DVD recorders. Likewise, unfinalized video mode discs recorded using other recorders are not usable in this recorder.
- Pioneer takes no responsibility for recording failure due to power cuts, defective discs, or damage to the recorder.
- Fingerprints, dirt and small scratches on a disc can affect playback and/or recording performance. Please take proper care of your discs.
- See also *Disc / content format playback compatibility* on page 8 for detailed disc compatibility information.
- Although this recorder can record PAL, SECAM, NTSC and PAL-60, you can't mix multiple TV line systems on one disc. A disc can contain PAL and SECAM recordings, or NTSC and PAL-60. See also *Additional information about the TV system settings* on page 116.

About HDD recording

Recording to the internal hard disk drive (HDD) is very flexible; you have the full choice of recording quality options, including manual mode, and of course you can record, erase and re-record as many times as you like.

The capacity of the hard disk drive means that you can store many hours of video on it, even using the higher quality recording modes.

**Important**

- The maximum number of titles/chapters per title that can be recorded on the HDD is 999 and 99 respectively. No more recording is possible on the HDD after the maximum number of titles has been reached.
- The maximum continuous recording time for one title is 12 hours.
- It is possible to record both PAL and NTSC titles on the HDD. Before recording, you need to make sure that the Input Line System setting (page 116) matches the TV line system of the source you're recording.

HDD Video mode compatibility

When recording to the HDD you can choose to record in one of two formats. Set the format from the HDD Recording Format item in the Initial Setup menu (see page 114).

When set to Video Mode On, high-speed copying from HDD to Video mode DVD is possible. When recording a bilingual broadcast, set which channel you want to record from the Initial Setup menu (see *Bilingual Recording* on page 111).

When HDD Recording Format is set to Video Mode Off, high-speed copying isn't possible. However, both channels of bilingual broadcasts are recorded and you can switch the audio on playback.

Note

1. Some DVD players, such as some Pioneer models, are compatible with VR mode discs. Check the operating instructions for your player for VR mode compatibility information.

Recording time and picture quality

There are six preset recording quality modes¹:

- **XP** – High quality setting, gives about one hour of recording time on a DVD disc.
- **SP** (Standard Play) – Default quality, used for most applications, gives about two hours of recording time on a DVD.
- **LP** (Long Play) – Lower video quality than SP, but doubles the recording time on a DVD to about four hours.
- **EP** (Extended Play) – Lower quality than LP, but gives about six hours of recording time on a DVD disc.
- **SLP** (Super Long Play) – Lower quality than EP, but gives about eight hours of recording time on a DVD disc.
- **SEP** (Super Extended Play) – Lowest video quality but gives about ten hours of recording time on a DVD disc.

Please note that there is a trade-off between recording time and quality. The longer the possible recording time, the lower the recorded picture quality.

In addition to these settings, when Manual Recording is On (see *Manual Recording* on page 113) you can access 32 different recording quality/time settings (**MN1–MN32**), a high-quality audio mode (**LPCM**), and a super-high quality (data transfer rate of around 15 Mbps) HDD recording mode (**XP+**).

When setting a timer recording there is a further option, **AUTO**, which maximizes the recording quality for the space available on the disc loaded at the time of recording. (If recording to the HDD, the recording quality is maximized to fit on to a DVD disc.)

Recorded audio

In all except the **LPCM** mode, sound is recorded in two channel Dolby Digital format. When set to **LPCM**, sound is recorded in high quality, uncompressed Linear PCM format.

If the broadcast audio is bilingual and you are recording in Video mode or to the HDD with the HDD Recording Format set to Video Mode On, or on the **LPCM** setting, use the Bilingual Recording setting (page 111) to select the **A/L** or **B/R** audio channel to record before recording starts. In other cases, both channels of a bilingual broadcast will be recorded and you can switch on playback.

Restrictions on video recording

You cannot record copy-protected video using this recorder. Copy-protected video includes DVD-Video discs and some satellite broadcasts. If copy-protected material is encountered during a recording, recording will pause automatically and an error message will be displayed on-screen.

Video that is 'copy-once only' can only be recorded on the HDD or in VR mode (see below).

When recording a TV broadcast or through an external input, you can display copy control information on screen. (see *Displaying disc information on-screen* on page 36).

CPRM

CPRM is a copy protection/scrambling system developed for the recording of 'copy once' broadcast programs. CPRM stands for *Content Protection for Recordable Media*.

This recorder is CPRM compatible, which means that you can record copy-once broadcast programs, but you cannot then make a copy of those recordings. CPRM recordings can only be made on CPRM-compatible DVD-R (ver. 2.0/8x or higher) or DVD-RW (ver. 1.1 or higher) discs formatted in VR mode or on the HDD.

DVD CPRM recordings can only be played on players that are specifically compatible with CPRM.

Recording equipment and copyright

Recording equipment should be used only for lawful copying and you are advised to check carefully what is lawful copying in the country in which you are making a copy. Copying of copyright material such as films or music is unlawful unless permitted by a legal exception or consented to by the rightowners.

- This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Note

1. All recording times (both in this manual and those shown by the recorder) are approximate. This is because of the way that the video is recorded; you may get slightly more or slightly less, depending on what you're recording.

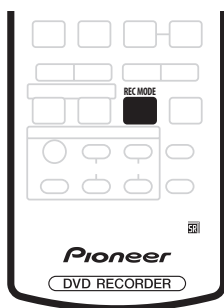
Setting the picture quality/recording time

VR mode Video mode **HDD**

Before starting a recording, you will usually want to set the picture quality/recording time. There are six standard settings available, which allow you to choose a balance between picture quality and recording time.

When Manual Recording is set to On (see *Manual Recording* on page 113), a further option will be available (**MN1–32**, **LPCM** or **XP+**, depending on what you set).

See also *Recording time and picture quality* on page 51 for more information.



• Press REC MODE repeatedly to select a recording setting.

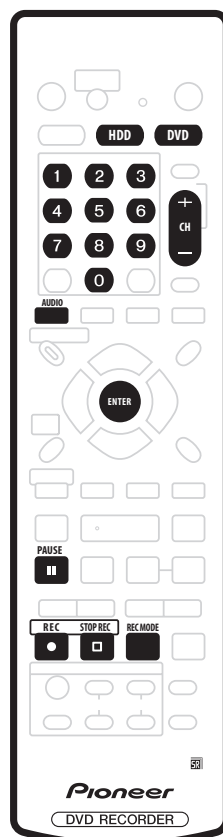
- **XP** – High quality
- **SP** – Standard play
- **LP** – Long play
- **EP** – Extended play
- **SLP** – Super Long play
- **SEP** – Super Extended play
- **MN / LPCM¹ / XP+²** – Manual / Linear PCM / XP+ (available only when manual recording is on)

The setting is indicated in the front panel display, and shown on-screen together with the recording time for a blank recordable disc. If a recordable disc is loaded, the approximate remaining recording time for that disc is also shown. (Note that if the On Screen Display setting (see *On-Screen Display* on page 115) is **Off** then this information is not displayed.)

Basic recording from the TV

VR mode Video mode **HDD**

Follow the instructions below to record a TV program. Recording starts immediately and continues until the disc is full or you stop the recording.



1 Press HDD or DVD to record to the hard disk drive or a recordable DVD respectively.

- If you're recording to DVD, load a recordable disc (if you load a new blank DVD-RW disc, the recorder takes a short while to initialize the disc).

2 Use the CH +/- buttons to select the TV channel to record.

The front panel display shows the channel number:



Note

1. Audio is recorded in 16-bit Linear PCM format, video is recorded at XP quality. When recording a bilingual broadcast, select which audio channel to record (see *Bilingual Recording* on page 111).
2. Applicable only to HDD recording. (If this setting is used when recording to DVD, **MN32** is used.) When copied to DVD, XP+ recordings are always copied in real time.

- While the recorder is stopped, you can also use the number buttons on the remote to select the channel. (For channel 6, press **6** then **ENTER**; for channel 24, press **2, 4** then **ENTER**)
- If the recorder is stopped, you can also use the **+/-** buttons on the front panel to select the channel number.

3 Use the REC MODE button to set the picture quality/recording time.

- See *Setting the picture quality/recording time* above for detailed instructions.

4 Use the AUDIO button to select the audio channel to record.

See *Changing audio channels* on page 32 for more on this.

- When recording in VR mode, if a broadcast is bilingual, both audio channels are recorded, allowing you to switch the audio channel on playback. The only exception to this is when the picture quality is set to **LPCM**, in which case you do need to select the audio channel before recording.

5 Press ● REC to start recording.

If you want to set a recording end time, press the ● **REC** button repeatedly. The recording time increases in 30 minute increments, up to a maximum of six hours. The time the recording will end is shown on-screen and in the front panel display. When the recording ends, the recorder automatically switches into standby if no other operation is being performed.

- To cancel the set recording time, press ● **REC**.
- If you want to pause recording at any time, press **II PAUSE**. Press again to restart the recording. (If recording to the HDD or in VR mode, a new chapter is started after recording restarts)

6 To stop the recording, press □ STOP REC.

- If you set the recording time in the previous step, you can still stop the recording anytime by pressing □ **STOP REC**.
- Recording will stop automatically when there is no more space on the HDD/DVD, or after 12 hours of HDD recording (whichever is sooner).

If VPS/PDC is active for two timer programs that are programmed to start at the same time, then the program that actually starts first takes priority.

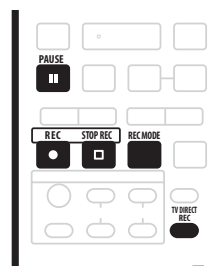


Tip

- During recording you can turn on/off the SCART loop through function. During recording, press the front panel **+** button to switch to **SCART THRU** (loop through on), or **-** to switch to **SCART NORM** (loop through off). Note that you can't switch loop through on if recording from the **AV2/(INPUT 1/DECODER)** or **AV1(RGB)-TV** connectors. Also, loop through is automatically reset to off after recording has finished.

Direct recording from TV

If you connected this recorder to your TV using a SCART cable, and your TV supports Direct Recording, you can record whatever is currently being shown on the TV without having to worry about what channel preset the recorder is on. Check the instructions that came with your TV if you're not sure whether your TV supports this feature.



1 If necessary, load a recordable disc.

2 Set the picture quality/recording time using the REC MODE button.

3 Press TV DIRECT REC to start recording.

If you want to set a recording time, press the ● **REC** button repeatedly. The recording time increases in 30 minute increments, up to a maximum of six hours. You can see the recording time on-screen and in the front panel display. When the recording ends, the recorder automatically switches into standby if no other operation is being performed.

- To cancel the set recording time, press ● **REC**.
- If you want to pause recording at any time, press **II PAUSE**. Press again to restart the recording. (If recording to the HDD or in VR mode, a new chapter is started after recording restarts)

4 To stop the recording, press □ STOP REC.

- If you set the recording time in step 3, you can still stop the recording anytime by pressing □ **STOP REC**.
- Recording will stop automatically when there is no more space on the HDD/DVD, or after 12 hours of HDD recording (whichever is sooner).

**Tip**

- You can press **TV DIRECT REC** while the recorder is in standby to switch on and immediately start recording.
- Please note that you can't record from another component (VCR, etc.) that is connected by a SCART cable to the **AV2/(INPUT 1/DECODER)** connector using the TV Direct Recording feature.

Setting a timer recording

VR mode

Video mode

HDD

Using the timer recording features you can program up to 32 timer recordings up to a month in advance. Timer recording programs can be set to record just once, every day, or every week.

There are two ways to program a timer recording; using the GUIDE Plus+ system (see *The Schedule Area* on page 44) or using the Easy Timer Recording feature (see *Easy Timer Recording* below).

You can set the recording quality for your timer recording in the same way as for a regular recording, but with the added option of an **AUTO** mode, which maximizes the recording quality for the space available on the disc (if recording to DVD), or to fit on to a blank DVD disc (if recording to HDD).

You can set timer recordings to record to a recordable DVD or to the hard disk drive. For regular (daily or weekly) HDD timer recordings that you don't need to keep, you can use the Auto Replace Recording feature to automatically replace the previous timer recording with the new one. Note that when you use this feature, the previous recording made on that timer program will be replaced by the next one, regardless of whether you have watched it yet or not.

You can also set the recorder so that it will adjust the recording quality to try and fit the recording on to the disc if it would not otherwise fit at the recording quality you set (see *Optimized Rec* on page 113 for more on this).

Finally, if you set a timer recording to record to DVD but there isn't a recordable DVD loaded at the time of the recording, the Recovery Recording feature will automatically record the program to the HDD for you.

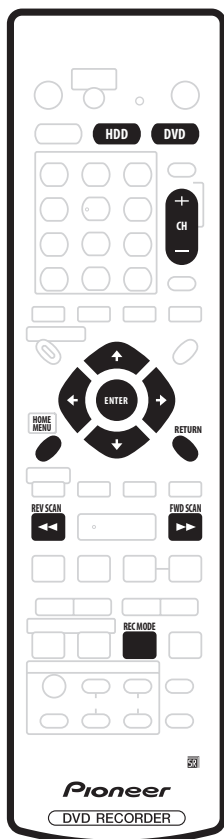
This recorder is compatible with VPS (Video Programming System) and PDC (Program Delivery Control) systems used by many TV stations to ensure that a timer recording catches the whole program even when the program is not running to schedule. Up to eight timer programs can be set with VPS/PDC on.

**Important**

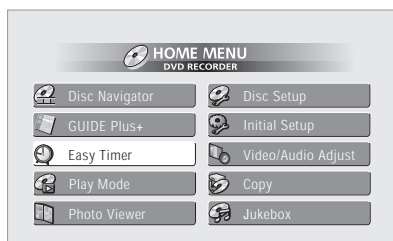
- A timer recording can't be set if there are already 32 timer programs waiting to be recorded.
- Timer recording will not start if:
 - The recorder is already recording.
 - A disc is being initialized, finalized or unfinalized.
- Timer recording will start when the operation preventing timer recording has finished.
- If a recordable DVD that doesn't support simultaneous playback and recording (see *Simultaneous recording and playback* on page 57) is playing when a DVD timer recording is due to start, playback will automatically stop to allow the recording to start.
- The timer indicator (⏰) lights in the front panel display when the timer is active. If the indicator is blinking it means that (for a DVD timer recording) there is no disc loaded, or the disc loaded is not recordable (for an HDD timer recording it means that the HDD is not recordable).
- Approximately two minutes before a timer recording is set to start, the recorder will go into timer recording standby. In timer recording standby you cannot use some functions.
- The maximum length for timer recordings made to the HDD is 24 hours. However, because one title (HDD) is limited to 12 hours, recordings over 12 hours will be spread over two titles. Note that there will be a break in the recording of a few seconds between titles.
- VPS/PDC may not work with all broadcast stations in your country/area. Check with the stations for compatibility.
- The hours between 3:00 and 5:00 in the morning are used by the GUIDE Plus+ system to download program information. During these times, VPS/PDC may not work reliably; leave VPS/PDC off if you set a timer recording for these times.

Easy Timer Recording

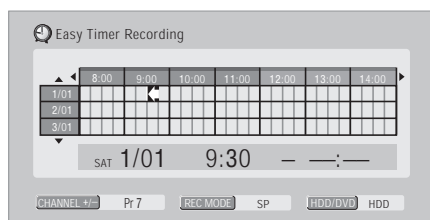
As the name suggests, Easy Timer Recording makes setting up a timer recording as simple as possible.¹



1 Press HOME MENU and select 'Easy Timer'.



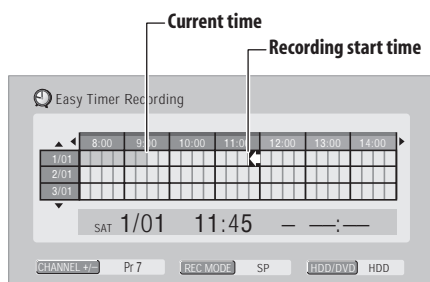
2 Set the TV channel and recording quality.



- Use the **CH +/-** buttons to set the channel you want to record.
- Use the **REC MODE** button to set the recording quality. Press repeatedly to switch between **XP**, **SP**, **LP**, **EP**, **SLP**, **SEP** and **AUTO** (and **MN** if manual recording mode is on).
- *DVD recording:* The **AUTO** option automatically sets the best recording quality for the space available on the disc loaded at the time of recording.
- *HDD recording:* The **AUTO** option automatically sets the best recording quality that would fit on to a blank DVD disc.
- Press **DVD** to record to DVD disc, or **HDD** if you want to record to the hard disk drive.

3 Use **↑/↓/←/→** to move the cursor to the recording start date and time on the grid.

- You can move the cursor forward or back an hour at a time using the **◀◀** and **▶▶** buttons.



Each row of the grid is one day (you can set the timer recording for up to a month in advance). Each column is a 15 minute interval.

The darker area represents time that has already passed and can't therefore be selected. The lighter area is time that's available.

4 Press **ENTER** to set the start time.

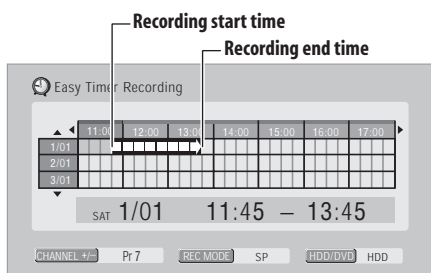
The start date and time is displayed in the middle of the screen.

- You can go back and reset the start time if you need to by pressing **RETURN**.

Note

1. You can't use VPS/PDC with Easy Timer Recording. Set a scheduled recording using the GUIDE Plus+ system if you want to use VPS/PDC.

- 5 Use the \leftarrow/\rightarrow to move the cursor to the recording end time on the grid.

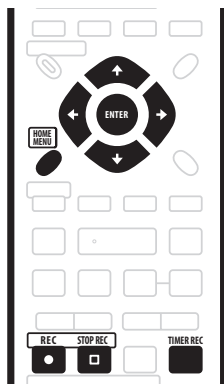


As you move the cursor around the grid, an arrow stretches from the start time to the current cursor position, representing the length of the recording. A recording of up to six hours can be set.

- 6 Press **ENTER** to set the end time.
- 7 Select '**Yes**' to set the timer recording and exit, or '**No**' to go back to the timer recording screen.
- You can check the timer recording details you just set from the Schedule Area in the GUIDE Plus+ system; see *The Schedule Area* on page 44).

Extending a timer recording in progress

You can extend a timer recording beyond the programmed end time in two different ways. This can be useful if a broadcast program overruns, for example.

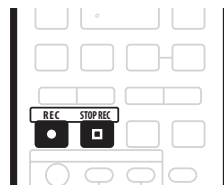


Moving the end time by 30-minute blocks

- 1 During timer recording, press and hold **● REC** for three seconds.
- The timer indicator disappears from the front panel display.
- 2 Press **● REC** repeatedly to extend recording in 30 minute increments.

Canceling and stopping a timer recording in progress

After a timer recording has started, you can cancel the program (but continue recording), or stop recording completely if you need to.



- 1 During timer recording, press and hold **● REC** for three seconds.

Only the program is canceled (the timer indicator disappears); recording continues so that you can manually stop recording whenever you like.

- 2 When you want to stop recording completely, press **□ STOP REC**.



Tip

- You can also stop a timer recording immediately by pressing **□ STOP REC** then selecting **Yes** to confirm.

Preventing use of the recorder before a timer recording (child lock)

You can make all the front panel and remote control buttons inoperative using the child lock feature. This is useful when you set a timer recording and want to make sure that the timer settings are not changed before recording has finished.

- 1 If the recorder is on, switch it into standby.
- 2 Press and hold **■ STOP** on the front panel for three seconds to lock the controls.
- The front panel display briefly shows **LOCK**. If any buttons are pressed on the remote or front panel, **LOCK** is briefly displayed again.
- To unlock the recorder, press and hold **■ STOP** on the front panel for three seconds until the display shows **UNLOCK**.
 - To cancel a timer recording when the recorder is locked, first unlock the recorder (see above), then press and hold **● REC** for three seconds.

Timer recording FAQ



Frequently Asked Questions

- *Even though the timer is set, the recorder doesn't start recording!*

Check that the disc loaded or HDD is recordable, not locked (see *Lock Disc* on page 104), and that there are fewer than 99/999 titles already on the DVD/HDD.

- *The recorder won't let me enter a timer program! Why not?*

You can't enter a timer program if the clock isn't set.

- *What happens when two or more timer programs overlap?*

Basically, the program with the earlier recording start time has priority. However, the recorder will start recording the program with the later start time after the earlier program is finished. If two programs have the same times (but different channels, for example), the program set most recently takes priority.

If VPS/PDC is active for two timer programs that are programmed to start at the same time, then the program that actually starts first takes priority.



Important

- Note that you must use a DVD-RW Ver. 1.1 / 2x or Ver. 1.2 disc to be able to use this feature.
- You may not be able to use this feature with a DVD-RW disc that was first initialized on another recorder.
- Chase playback is not possible using a VR mode DVD-R disc.
- **During recording, press ► PLAY to start playback from the beginning of the current recording¹, or press DISC NAVIGATOR and select another title to play from there.** You can use all the usual playback controls, such as pause, slow-motion play, scan² and skip.
 - To stop playback, press ■ STOP (recording will continue).
 - To stop recording, press □ STOP REC (playback will continue).
 - During recording or in timer recording standby, you can't play an HDD title, DVD or Video CD/Super VCD disc if the Input Line System setting doesn't match the TV line system of the disc/HDD title (see also *Additional information about the TV system settings* on page 116). Also, during simultaneous recording and playback, if the TV line system of the playback track/title changes then playback will automatically stop.

Simultaneous recording and playback

VR mode

HDD

A feature called Chase Play makes it possible to watch a recording in progress (DVD or HDD) from the start of the recording (as in, playback is 'chasing' the recording). For example, perhaps you have to miss the first 30 minutes of a movie on TV; you can start recording, then start watching the movie, from the beginning, while the recorder is still recording 30 minutes ahead of you.

In fact, you're not just limited to watching the recording in progress; you can watch anything else already on the DVD or HDD by selecting it from the Disc Navigator screen (see *Using the Disc Navigator with recordable discs and the HDD* on page 62).



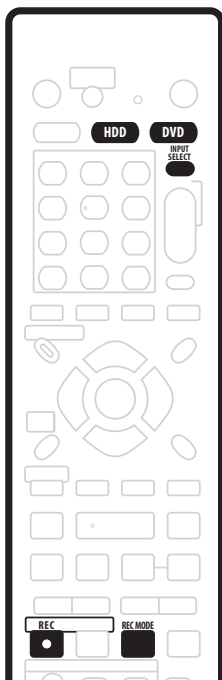
Note

1. You can't start playback immediately after recording starts. Simultaneous playback and recording doesn't work while copying or backing up.
2. When scanning a DVD, no sound is output if the recorder is also recording the DVD (see *Scanning discs* on page 64).

Recording from an external component

VR mode Video mode HDD

You can record from an external component, such as a camcorder or VCR, connected to one of the recorder's external inputs.



1 Make sure that the component you want to record from is connected properly to the DVD recorder.

See Chapter 2 (*Connecting up*) for connection options.

2 Press INPUT SELECT repeatedly to select one of the external inputs to record from.

There are two analog inputs. The current input is shown on-screen and in the front panel display:

- **AV2/L1** – Input 1¹
- **L2** – Input 2 (front panel)

Check that the **Audio In** settings for **External Audio** and **Bilingual Recording** are as you want them (see *Audio In Settings* on page 111).

- If the aspect ratio is distorted (squashed or stretched), adjust on the source component or your TV before recording.

3 Set up the recorder.

- Use **REC MODE** to set the recording quality. See *Setting the picture quality/recording time* on page 52 for detailed information.
- Press **HDD** to record to the hard disk drive, or **DVD** to record to a DVD.

4 Press ● REC when you're ready to start recording.

- Recording will pause if the signal is interrupted during recording.
- If your source is copy-protected using CopyGuard, you will not be able to record it. See *Restrictions on video recording* on page 51 for more details.

Playing your recordings on other DVD players

VR mode Video mode

Most regular DVD players can play finalized discs recorded in Video mode. A number of players (including many Pioneer models) can also play DVD-RW discs recorded in VR mode, finalized or not. Most players will not play VR mode DVD-R discs, although some DVD-ROM drives and DVD recorders may be able to (finalization might be necessary). Check the manual that came with the player to check what kinds of discs it will play.

When you finalize a Video mode disc, a title menu is created from which you can select titles when you play the disc. There are a number of different styles of title menu to choose from to suit the content of the disc.

All the title menus are navigated in the usual way, pressing **MENU** or **TOP MENU** to display the menu, then using the **↑/↓/←/→** followed by **ENTER** to select titles and start playback.

Note

1. This cannot be selected if **AV2/L1 In** is set to **Decoder** (see *AV2/L1 In* on page 111).

Finalizing a disc

VR mode **Video mode**

Finalizing 'fixes' the recordings in place so that the disc can be played on a regular DVD player or computer equipped with a suitable DVD-ROM drive.¹

Note that the disc name will appear in the title menu after you finalize a disc. Make sure the disc name is as you want it before you finalize the disc as it can't be changed afterwards. If you want to rename the disc, see *Input Disc Name* on page 104 before starting the steps below.



Important

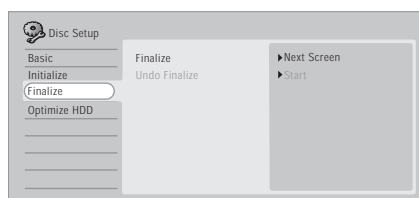
- Once you've finalized a disc recorded in Video mode, you can't edit or record anything else on that disc. However, the finalization on a DVD-RW disc maybe 'undone'; see *Undo Finalize* on page 105 for how to do this.
- A VR mode disc can still be recorded and edited on this recorder even after finalizing.

1 Load the disc you want to finalize.

Make sure that the recorder is stopped before proceeding.

2 Press HOME MENU and select 'Disc Setup'.

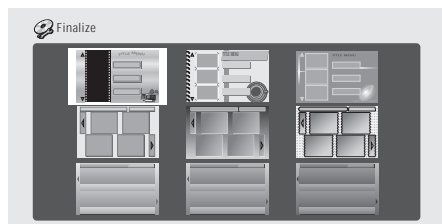
3 Select 'Finalize'.



4 Select 'Finalize' from the finalize options, then 'Next Screen'.

5 For Video mode discs only, select a title menu style, then select 'Yes' to start finalization or 'No' to cancel.

The menu you select will be the one that appears when the 'top menu' is selected on any DVD player.



- Discs recorded partially or fully on the Pioneer DVR-7000 DVD recorder do not support this feature. These discs will have only a text title menu when finalized on this recorder.

6 The recorder will now start finalizing the disc.

During finalization:

- If the finalization process of a DVD-RW disc is going to take more than around four minutes, you can press **ENTER** to cancel. Around four minutes before completion, the option to cancel disappears.
- You can't cancel the finalization of a VR mode DVD-R disc.
- How long finalization takes depends on the type of disc, how much is recorded on the disc and the number of titles on the disc. A disc recorded in VR mode can take up to one hour to finalize. A disc recorded in Video mode can take up to 20 minutes.

Note

1.If the TV line system of the disc is different to the current setting of the recorder, you will not be able to finalize the disc. See *Additional information about the TV system settings* on page 116 for how to change the recorder's setting.

Initializing a recordable DVD disc

When you first load a blank disc, the recorder will initialize it automatically for recording. You can also manually initialize discs for either Video mode recording or VR mode recording.¹

By default, the recorder initializes blank DVD-RW discs for VR mode recording. See *DVD-RW Auto Init.* on page 114 if you want to change the default to Video mode.

DVD-R discs are ready for Video mode recordings out of the box; if you want to use a DVD-R for VR mode recording, you must do it before recording anything else on the disc.

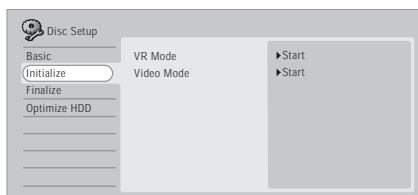


Important

- Initializing a DVD-RW disc will erase everything recorded on it. Make sure there is nothing on the disc that you want to keep!
- You may not be able to re-initialize a DVD-RW disc in a different format if it was originally initialized on an older DVD recorder.
- Once initialized for VR mode recording, you can't re-initialize a DVD-R back to Video mode.

1 Press HOME MENU and select 'Disc Setup'.

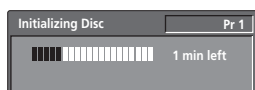
2 Select 'Initialize'.



3 Select 'Video Mode' or 'VR Mode' from the initialize options.

4 Select 'Start'.

It takes about 30 seconds to initialize the disc.



Note

1. If a disc was previously finalized on an older DVD recorder, you may not be able to re-initialize and/or initialize it for Video mode recording.

Chapter 7

HDD and DVD playback

Introduction

Most of the features described in this chapter make use of on-screen displays. Navigate these using the **↑/↓/←/→** and **ENTER**. To go back one level from any screen, use the **RETURN** button. Remember also that the button guide at the bottom of every screen shows which buttons do what.

Many of the functions covered in this chapter apply to the HDD, DVD discs, Video CDs, Super VCDs, WMA/MP3 discs and CDs, although the exact operation of some varies slightly with the kind of disc loaded. The following icons are provided to help you quickly identify which instructions you need for which kind of disc.

DVD	Any kind of DVD, DVD-R or DVD-RW
DVD-Video	Commercially produced DVD or finalized Video mode DVD-R/RW
Video mode	Video mode DVD-R/RW (unfinalized)
VR mode	VR mode DVD-R/RW
HDD	HDD
CD	Audio CD
Video CD	Video CD
Super VCD	Super VCD
WMA/MP3	WMA or MP3 files
ALL	All of the above

- Some DVD-Video discs don't allow certain playback controls to operate at certain points in the disc. This is not a malfunction.
- When playing Video CDs, some functions, such as making a program list, are not available in PBC mode. Stop the disc first, then start playback by pressing **▶▶I**.
- For discs that contain JPEG picture files, see *The PhotoViewer* on page 102.

About DualDisc playback

A DualDisc is a new two-sided disc, one side of which contains DVD content—video, audio, etc.—while the other side contains non-DVD content such as digital audio material.

The non-DVD, audio side of the disc is not compliant with the CD Audio specification and therefore may not play.

It is possible that when loading or ejecting a DualDisc, the opposite side to that being played will be scratched. Scratched discs may not be playable.

The DVD side of a DualDisc plays in this product. DVD-Audio content will not play.

For more detailed information on the DualDisc specification, please refer to the disc manufacturer or disc retailer.

Navigating discs and the HDD

ALL

During playback you can easily jump to another title, chapter or track on a disc using the number buttons on the remote.



DVD-Video Video mode

1 During playback use the number buttons to enter a chapter number within the current title.

For example, for chapter 6, press **6**; for chapter 24, press **2**, then **4**.

- To clear and start again, press **CLEAR**.

2 Optionally: Press ENTER.

- Alternatively, just wait a few seconds and playback will jump to the new chapter.

HDD VR mode

1 During playback, use the number buttons to input a title number.

For example, for title 6, press **6**; for title 24, press **2**, then **4**.

- To clear and start again, press **CLEAR**.

2 Optionally: Press ENTER.

- Alternatively, just wait a few seconds and playback will jump to the new title.

CD

Video CD

Super VCD

WMA/MP3

1 During playback, use the number buttons to input a track number.

For example, for track 6, press **6**; for track 24, press **2**, then **4**.

- To clear and start again, press **CLEAR**.

2 Optionally: Press ENTER.

- Alternatively, just wait a few seconds and playback will jump to the new track.

Using the Disc Navigator to browse the contents of a disc.

Use the Disc Navigator to browse the contents of a disc and start playback.

Using the Disc Navigator with recordable discs and the HDD

VR mode

Video mode

HDD

You can use the Disc Navigator to browse and edit video on recordable DVDs and the HDD, and to view information on titles.

See also *HDD and DVD editing* on page 90 for more on editing recordable discs.

1 Press HDD or DVD to select the hard disk drive or DVD.

2 Press HOME MENU and select 'Disc Navigator' from the on-screen display.

Alternatively, you can press **DISC NAVIGATOR** to go straight to the Disc Navigator screen.

3 Use the ↑/↓ buttons to browse up and down the list of titles.



- Use the **◀◀/▶▶** buttons to display the previous/next page of titles, if there are more titles than can fit on to the screen.

- You can change the style and order in which titles are displayed from the view options menu. See below for more on this.

- You can change the thumbnail picture displayed for a title; see *Set Thumbnail* on page 93.

4 To play the highlighted title, press ENTER.

- You can also select **Play** from the command menu options.



Tip

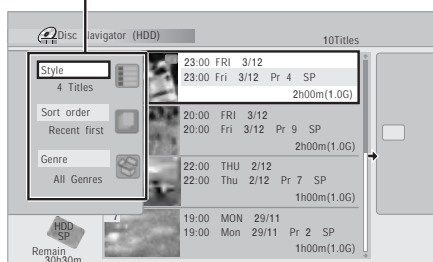
- Use the time search feature to find a particular point on a DVD or within a title on the HDD. See *Search Mode* on page 65 for more information.

Changing the display style of the Disc Navigator

You can choose to display titles in the Disc Navigator in various different ways, sorted alphabetically, by recording date, by genre, and so on. You can also choose whether to display four or eight titles on the screen at the same time.

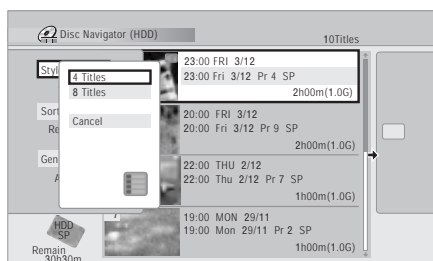
1 From the Disc Navigator's title list, press ← to display the view options panel.

The View Options panel

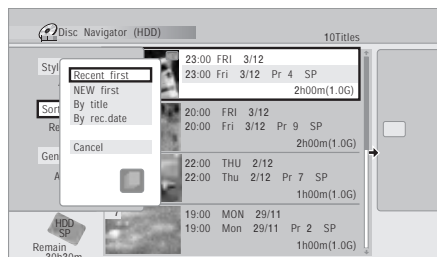


2 Use the ↑/↓ buttons to select 'Style', 'Sort order' or 'Genre', then press ENTER to see the available view options.

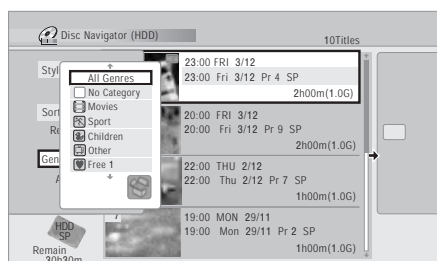
- Style** – Select four or eight titles per screen view



- **Sort order** – Sort by date (most recent first), unwatched first, title name or recording date (oldest first)



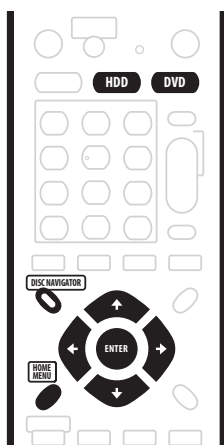
- **Genre** – Display all genres or just a selected genre



3 Use the **↑/↓** buttons to select an option, then press **ENTER**.

The title list display is updated according to the new display preferences.

4 Press **→** to return to the title list.

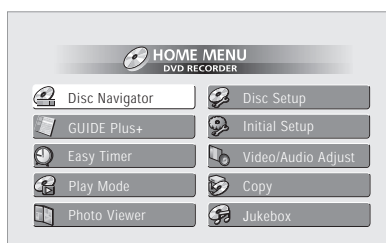


Using the Disc Navigator with playback-only discs

DVD-Video **CD** **Video CD** **Super VCD** **WMA/MP3**

1 Press **HOME MENU** and select 'Disc Navigator' from the on-screen display.

Alternatively, for a CD, Video CD, Super VCD or WMA/MP3 disc, you can press **DISC NAVIGATOR**, which takes you straight to the Disc Navigator screen.

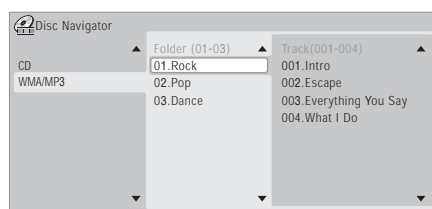


2 Select what you want to play.

Use the **↑/↓/←/→** to highlight items and **ENTER** to select.

Depending on the type of disc you have loaded, the Disc Navigator looks slightly different.

- When a DVD is loaded, titles are shown on the left, chapters on the right. Select a title, or a chapter within a title.
- When a CD or Video CD/Super VCD¹ is loaded, a list of the tracks is displayed.
- When a WMA/MP3 disc is loaded, a list of folders and tracks is displayed (as shown below). Select a folder or a track within a folder.



Playback starts after you press **ENTER**.

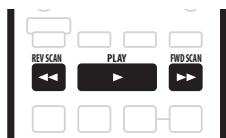
- For discs that contain both CD-Audio tracks and WMA/MP3 tracks, you can switch the playback area between **CD** and **WMA/MP3**. This can only be done while the disc is stopped.

Note

1.It's not possible to use the Disc Navigator when playing a Video CD/Super VCD in PBC mode.

Scanning discs

You can fast scan discs at various speeds, forwards or backward.¹



- 1 During playback, press ◀◀ or ▶▶ to start reverse or forward scanning.
 - The scanning speed is shown on-screen.
- 2 Press the same button repeatedly to increase the scanning speed.

DVD

HDD

- **Forward:**
SCAN 1 (1.5x Quick View) → SCAN 2 → SCAN 3 → SCAN 4
- **Reverse:**
Reverse play² → SCAN 1 → SCAN 2 → SCAN 3 → SCAN 4

CD

Video CD

Super VCD

WMA/MP3

- **Forward/Reverse:**
SCAN 1 → SCAN 2

- 3 To resume normal playback, press ▶ PLAY.

Playing in slow motion

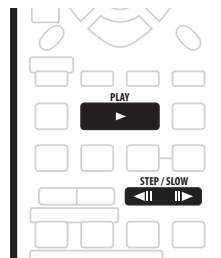
DVD

HDD

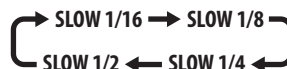
Video CD

Super VCD

You can play video at various slow motion speeds. DVDs and video on the HDD can be played in slow motion in either direction, while Video CD/Super VCDs can only be played forwards in slow motion.³



- 1 Press ◀◀ or ▶▶ to start slow motion reverse or forward playback.
- 2 Press the same button repeatedly to change the slow motion speed.



- 3 To resume normal playback, press ▶ PLAY.

Note

1. Only analog audio is output when scanning audio CDs.
 - No subtitles are displayed when scanning DVDs.
 - Analog and digital sound is output when scanning DVDs with Dolby Digital or Linear PCM sound on forward **SCAN 1**. (Linear PCM is output from the optical digital output, Except during chase playback and simultaneous recording/playback) No sound is output when using other scan speeds.
 - No sound is output when scanning from the HDD, except on forward **SCAN 1**. (Linear PCM is output from the optical digital output during forward **SCAN 1**).
 - Depending on the disc, normal playback may automatically resume when a new chapter is reached on a DVD disc.
2. Depending on the disc, reverse playback may not be smooth.
3. The picture quality during slow motion playback is not as good as during normal playback and depends on the disc being played.
 - Reverse slow-motion playback may not be as smooth as forward and may be better with some discs than others.
 - Depending on the disc, normal playback may automatically resume when a new chapter is reached on a DVD disc.
 - No sound is output during slow-motion playback.

Frame advance/frame reverse

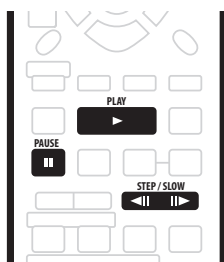
DVD

HDD

Video CD

Super VCD

You can advance or back up video on a DVD disc or the HDD frame-by-frame. With Video CD/Super VCDs, you can only use frame advance.¹



- 1 During playback, press **II PAUSE**.
- 2 Press **◀II** or **II▶** to back up or advance one frame.
 - Hold down **◀II** or **II▶** for continuous frame reverse/frame advance.
- 3 To resume normal playback, press **▶ PLAY**.

The Play Mode menu

ALL

The Play Mode menu gives you access to search functions, repeat and program play functions.

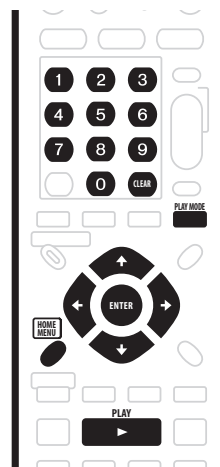


Important

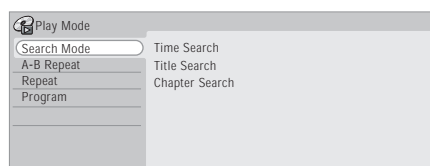
- You can't use the Play Mode features with Video CD/ Super VCDs playing in PBC mode, or while a DVD disc menu is being displayed. For other restrictions, see the following sections.

Note

1. The picture quality when using frame reverse is not as good as frame advance.
 - Depending on the disc, normal playback may automatically resume when a new chapter is reached on a DVD disc.
2. When using time search, playback may occasionally start slightly before or after the time you input.



- 1 Press **PLAY MODE** to display the Play Mode menu screen.



- You can also access the Play Mode menu from the Home Menu (press **HOME MENU**).
- 2 Use the **↑/↓/←/→** and **ENTER** to navigate.
 - To exit the Play Mode menu, press **HOME MENU** or **PLAY MODE**.

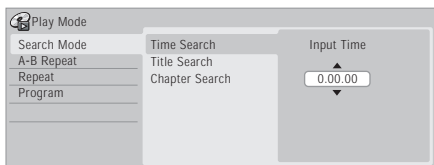
Search Mode

ALL

The Search Mode feature lets you start playback from a specified point in a disc by time² or by title/chapter/folder/track number.

- 1 Select 'Search Mode' from the Play Mode menu.
- 2 Select one of the search options.

3 Use the number buttons to enter a title/chapter/folder/track number or the search time (in hours, minutes & seconds).



Time Search (HDD, DVD): For example, for 25 minutes into the current title, press **2, 5, 0, 0**. For 1 hour and 15 minutes and 20 seconds into the title, press **1, 1, 5, 2, 0**.

Time Search (Video CD): For example, for 2 minutes and 30 seconds into the current track, press **2, 3, 0**.

Title/Chapter/Folder/Track Search: For example, for track 6, press **6**. Alternatively, you can use the **↑/↓** buttons.

4 Press ENTER.



Tip

- You can often select what you want to watch on a DVD disc from the disc menu. Press **MENU** or **TOP MENU** to display the disc menu.
- Time search doesn't work with CDs and Super VCDs.

A-B Repeat

DVD

CD

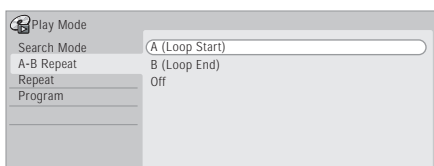
Video CD

HDD

The A-B Repeat function allows you to specify two points (A and B) within a track or title that form a loop which is played over and over.¹

1 During playback, select 'A-B Repeat' from the Play Mode menu.

2 With 'A (Loop Start)' highlighted, press ENTER at the point you want the loop to start.



After setting the loop start point, the highlight will automatically move down to **B (Loop End)**.

3 With 'B (Loop End)' highlighted, press ENTER at the point you want the loop to end.

Playback immediately jumps back to the start point and plays the loop round and round.

- When playing a DVD-Video/Video mode DVD, or from the HDD, the start and end points of the loop must be in the same title.

4 To resume normal playback, select 'Off' from the A-B Repeat menu.

- You can also press **CLEAR** to cancel A-B Repeat play if no menu OSD (such as the Play Mode menu) is displayed.

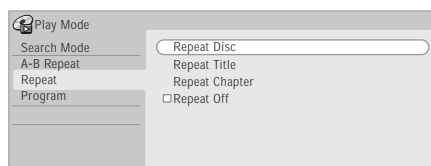
Repeat play

ALL

There are various repeat play options, depending on the kind of disc loaded, or if you're using the HDD for playback. It's also possible to use repeat play together with program play to repeat the tracks/chapters in the program list (see *Program play* on page 67).²

1 Select 'Repeat' from the Play Mode menu.

2 Select a repeat play mode.



VR mode

- For VR mode DVD discs, select **Repeat Disc**, **Repeat Title** or **Repeat Chapter** (or **Repeat Off**).

DVD-Video

Video mode

HDD

- For HDD, DVD-Video and Video mode DVD discs, select **Repeat Title** or **Repeat Chapter** (or **Repeat Off**).

CD

Video CD

Super VCD

- For CDs and Video CD/Super VCDs, select **Repeat Disc** or **Repeat Track** (or **Repeat Off**).

Note

- If you switch camera angles during A-B repeat play, A-B repeat is canceled.
- You can't use A-B Repeat with WMA/MP3 or Super VCD discs.
- If you switch the camera angle during repeat play of a DVD-Video disc, repeat play is canceled.

WMA/MP3

- For WMA/MP3 discs, select **Repeat Disc**, **Repeat Folder** or **Repeat Track** (or **Repeat Off**).

3 To resume normal playback, select 'Repeat Off' from the Repeat Play menu.

- You can also press **CLEAR** to cancel repeat play if no menu OSD (such as the Play Mode menu) is displayed.

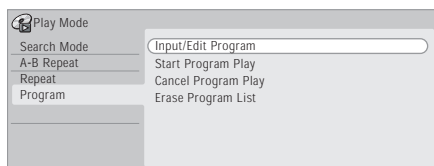
Program play

DVD-Video **HDD** **CD** **Video CD** **Super VCD** **WMA/MP3**

This feature lets you program the play order of titles/chapters¹/folders/tracks on a disc or the HDD.

1 Select 'Program' from the Play Mode menu.

2 Select 'Input/Edit Program' from the list of program options.



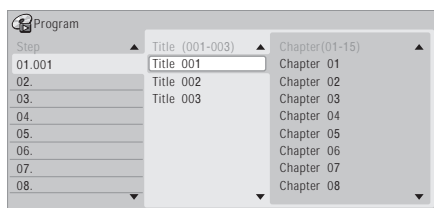
The Program edit screen that appears depends on the kind of disc loaded.

On the left side is the program list, then to the right is a list of titles (DVD, HDD), folders (WMA/MP3), or tracks (CD, Video CD/Super VCDs). On the far right is a list of chapters (DVD, HDD) or tracks (WMA/MP3).

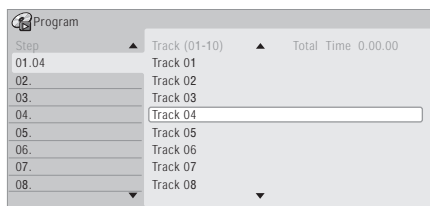
3 Select a title, chapter, folder or track for the current step in the program list.

DVD or HDD: You can add a whole title, or a chapter within a title to the program list.

- To add a title, select the title.
- To add a chapter, first highlight the title, then press **→** and select a chapter from the list.

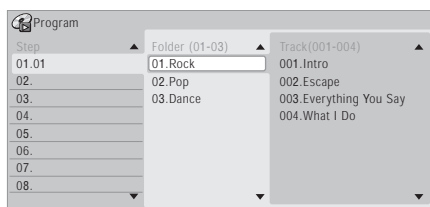


CD or Video CD/Super VCD: Select a track to add to the program list.



WMA/MP3: You can add a whole folder, or a track within a folder to the program list.

- To add a folder, select the folder.
- To add a track, first highlight the folder, then press **→** and select a track from the list.



After pressing **ENTER** to add the title/chapter/folder/track, the step number automatically moves down one.

- To insert a step into the program list, highlight the step number where you want to insert another step, then select a chapter/title/folder/track as usual. After pressing **ENTER**, all the subsequent steps move down one.
- To delete a step from the program list, highlight the step you want to delete, then press **CLEAR**.

4 Repeat step 3 to build up a program list.

A program list can contain up to 24 titles/chapters/folders/tracks.

5 To play the program list, press **▶ PLAY**.

Program play remains active until you turn off program play (see below), erase the program list (see below), eject the disc or switch off the recorder.

- You can use repeat play with program play. Start playback of the program list then select **Program Repeat** from the Repeat Play Mode menu (see *Repeat play* on page 66).

Note

1. When playing a program list of DVD-Video chapters, chapters not included in the program list may be sometimes be played, depending on the disc.

**Tip**

- To save your program list and exit the program edit screen without starting playback, press **HOME MENU** or **PLAY MODE**.
- You can change the program list by selecting **Input/Edit Program** from the Play Mode Program menu.
- During program play, press **▶▶** to skip to the next program step.
- Press **CLEAR** during playback to switch off program play (if no menu OSD, such as the Disc Navigator, is displayed). Press while stopped to erase the program list.

Other Program play functions

As well as creating and editing a program list, you can start program play, cancel program play, and erase the program list from the Play Mode menu.

1 Press PLAY MODE and select 'Program' from the list of functions on the left.

2 Select a program play function.

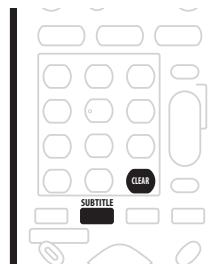
- **Input/Edit Program** – See above
- **Start Program Play** – Starts playback of a saved program list
- **Cancel Program Play** – Turns off program play, but does not erase the program list
- **Erase Program List** – Erases the program list and turns off program play

Displaying and switching subtitles

DVD-Video

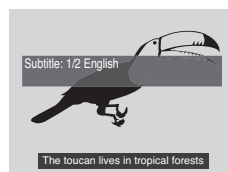
Some DVD discs have subtitles in one or more languages; the disc box will usually tell you which subtitle languages are available. You can switch subtitle language during playback.¹

Check the disc packaging for details of the subtitle options.



1 Press SUBTITLE repeatedly to select a subtitle option.

The current subtitle language is shown on-screen and in the front panel display.



2 To switch off subtitles, press SUBTITLE then CLEAR.

Note

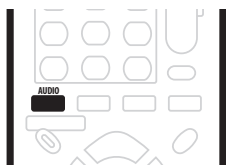
- Some discs only allow you to change subtitle language from the disc menu. Press **TOP MENU** to access.
- To set subtitle preferences, see *Subtitle Language* on page 113.

Switching DVD soundtracks

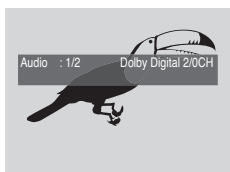
DVD-Video

When playing a DVD disc recorded with two or more soundtracks (often in different languages), you can switch the soundtrack during playback.¹

Check the disc packaging for details of the soundtrack options.



- Press **AUDIO** repeatedly to select an audio soundtrack.



- The sound may drop out for a few seconds when switching soundtracks.
- Some discs feature both Dolby Digital and DTS soundtracks. There is no analog audio output when DTS is selected. To listen to the DTS soundtrack, connect this recorder to a DTS decoder or AV amp/receiver with built-in DTS decoder via the digital output. See *Connecting to an AV amplifier/receiver* on page 20 for connection details.

Switching audio channels

VR mode

HDD

CD

Video CD

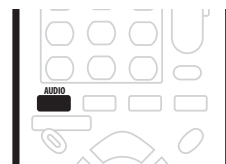
Super VCD

WMA/MP3

For HDD² and VR mode content recorded with bilingual audio, you can switch between left (**L**) channel, right (**R**) channel, or both (**L+R**).³

When playing Video CDs and audio CDs you can switch between stereo, just the left channel or just the right channel.

Some Super VCDs have two soundtracks. With these discs you can switch between the two soundtracks as well as individual channels in each.



- 1 To display/switch the audio channel, press **AUDIO** repeatedly.

The audio channel(s) currently playing are indicated on-screen.

VR mode

HDD

- **L+R** – Both channels (default)
- **L** – Left channel only
- **R** – Right channel only

CD

Video CD

WMA/MP3

- **Stereo** – Stereo (default)
- **1/L** – Left channel only
- **2/R** – Right channel only

Super VCD

- **1 Stereo** – Soundtrack 1 / Stereo (default)
- **1 L** – Soundtrack 1 / Left channel
- **1 R** – Soundtrack 1 / Right channel
- **2 Stereo** – Soundtrack 2 / Stereo
- **2 L** – Soundtrack 2 / Left channel
- **2 R** – Soundtrack 2 / Right channel

Note

1. • Some discs only allow you to change audio language from the disc menu. Press **TOP MENU** to access.


• To set audio language preferences, see *Audio Language* on page 112.

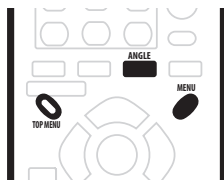
2. Only when HDD Recording Format is set to Video Mode Off (*HDD Recording Format* on page 114).

3. When playing a Bilingual recording on a VR mode disc, if you are listening to the Dolby Digital soundtrack via the digital output, you cannot switch the audio channel. Set **Dolby Digital Out** to **Dolby Digital** → **PCM** (see *Dolby Digital Out* on page 112) or listen via the analog outputs if you need to switch the audio channel.

Switching camera angles

DVD-Video

Some DVD-Video discs feature scenes shot from two or more angles—check the disc box for details: it should be marked with a  icon if it contains multi-angle scenes. When a multi-angle scene is playing, the same icon appears on screen to let you know that other angles are available (this can be switched off if you prefer—see *Angle Indicator* on page 115).



- **To switch the camera angle, press ANGLE.**
- The angle number is displayed on-screen.
- If the disc was paused, playback starts again with the new angle.
- Repeat play is canceled if you change the angle while repeat playback is active.
- You can also change the angle from some DVD-Video disc menus. Press **TOP MENU** or **MENU** to access.

Chapter 8

VHS playback and recording

About VHS tape

Recording and playback is possible with VHS and HQ VHS tape.

Please use only video tapes that bear the following logo:



NTSC and SECAM tape playback

PAL, NTSC, SECAM and MESECAM tape playback is possible; however, please note the following:

You can specify the color standard as **Auto**, **PAL** or **SECAM**. Generally, the color standard should be set to **Auto** (see *Input Colour System* on page 111 and *Colour system settings for VHS* on page 116).

When using a pre-recorded NTSC video tape, the connected TV set must be compatible with 60 Hz vertical frequency (sometimes this feature is known as 'PAL 60 Hz'), otherwise the picture will appear to roll vertically. NTSC tapes recorded in EP mode will not play on this unit.

Note that tapes recorded with a mix of PAL, NTSC and SECAM programs will not play correctly on this unit.

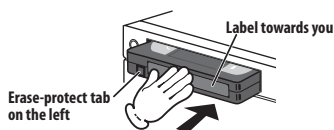
Recording modes and maximum recording times

We recommend using E180 tapes or shorter.

Recording mode	VHS tape length				
	E240	E180	E90	E60	E30
SP (Standard)	4 hrs.	3 hrs.	1 hr. 30 mins.	1 hr.	30 mins.
LP (2x)	8 hrs.	6 hrs.	3 hrs.	2 hrs.	1 hr.

Loading a tape

- Push the tape into the slot until you feel it being pulled in.
- If you push a tape in when the power is off, the power automatically switches on.



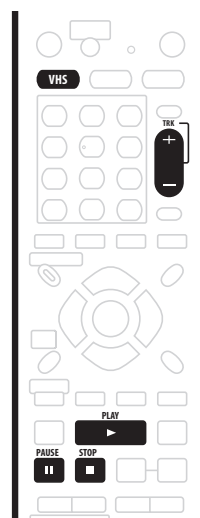
Ejecting a tape



- Press the **▲ VHS EJECT** button (front panel only). Once the tape has been ejected, remove it from the tape loading slot.

- If the tape should get caught in the mechanism and fail to eject, please take the unit to your nearest Pioneer authorized service center.

Playing a tape



1 Select VHS.

- The front panel VHS indicator lights green when VHS is selected.

2 Load a tape.

- If the erase-protect tab has been removed then playback will begin automatically.

3 Press ► PLAY to start playback.

The tape will play until the end, at which point the deck will automatically rewind the tape back to the beginning and eject the tape.

- To pause playback, press **II PAUSE**.
- To stop playback before the end of the tape, press **■ STOP**.

Automatic tracking adjustment

This feature automatically optimizes the picture quality whenever you start playback of a tape.

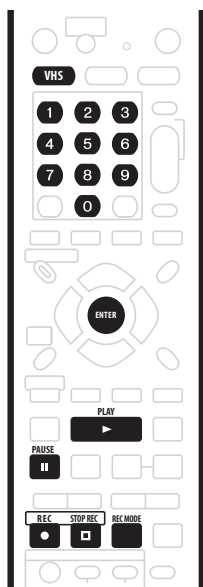
Adjusting the tracking manually

If auto tracking fails to eliminate video noise you can manually adjust the tracking during the playback using the **TRK +/-** buttons to optimize the video quality.

To return to auto tracking, press **TRK +** and **TRK -** at the same time.

Recording the program you're watching

It is easy to start recording the program you're watching to VHS tape. Note that you can't start recording if you already have a VHS timer recording set, or if you are recording on the HDD or DVD.



1 Select VHS.

- The front panel VHS indicator lights green when VHS is selected.
- If you are switching from HDD or DVD playback, playback will stop when VHS is selected.

2 Load a tape.

- If the erase-protect tab has been removed, the tape will automatically eject when you try and start recording.
- You can still record on an erase-protected tape by covering the erase-protect hole with Scotch tape.

3 Make sure that the built-in tuner is on the channel that you want to record.

When playback is stopped, you can change channels using the number buttons. For example, for channel **12**, press **1**, **2**, then **ENTER**.

4 Use the REC MODE button to select the recording mode.

See page *Recording modes and maximum recording times* on page 71 for more on this.

5 Press and hold ● REC then press ► PLAY to start recording.

- You can also use the front panel ● REC button to start recording.

One Touch Recording

Use the ● REC button for One Touch Recording. Each press extends the recording time by 30 minutes (up to a maximum of six hours).

- To cancel One Touch Recording, press ● REC while ● (REC) is displayed on-screen.

Pausing the recording

Use the II PAUSE button to pause a recording in progress. To restart recording, press ● REC or II PAUSE.

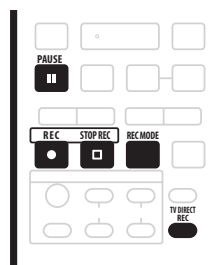
- If recording is paused for five minutes, in order to protect the tape, recording is stopped completely.
- You can change the channel when recording is paused.

Stopping recording

Press the □ STOP REC button to stop recording.

Direct recording from TV

If you connected this recorder to your TV using a SCART cable, and your TV supports Direct Recording, you can record whatever is currently being shown on the TV without having to worry about what channel preset the recorder is on. Check the instructions that came with your TV if you're not sure whether your TV supports this feature.



1 If necessary, load tape for recording.

2 Use the REC MODE button to select the recording mode.

See page *Recording modes and maximum recording times* on page 71 for more on this.

3 Press TV DIRECT REC to start recording.

If you want to set a recording time, press the **● REC** button repeatedly. The recording time increases in 30 minute increments, up to a maximum of six hours. You can see the recording time on-screen and in the front panel display. When the recording ends, the recorder automatically switches into standby if no other operation is being performed.

- To cancel the set recording time, press **● REC**.
- If you want to pause recording at any time, press **II PAUSE**. Press again to restart the recording.

4 To stop the recording, press **□ STOP REC**.

- If you set the recording time in step 3, you can still stop the recording anytime by pressing **□ STOP REC**.
- Recording will stop automatically at the end of the tape.








Tip

- You can press **TV DIRECT REC** while the recorder is in standby to switch on and immediately start recording.
- Please note that you can't record from another component (VCR, etc.) that is connected by a SCART cable to the **AV2/(INPUT 1/DECODER)** connector using the TV Direct Recording feature.

Other VHS playback features

The table below shows additional playback controls for VHS tapes.

 	<p><i>During playback</i> – Press to start reverse/forward scanning. Press again to change the scan speed. The scan speed depends on the recording mode.</p> <p>Each press of ◀◀ or ▶▶ alternates the scan speeds.</p> <ul style="list-style-type: none"> • To resume normal playback, press ▶ PLAY. <p><i>While stopped</i> – Press to start reverse/forward winding.</p> <ul style="list-style-type: none"> • To stop winding, press ■ STOP. • To start scanning, press and hold ◀◀ or ▶▶.
	<p><i>During playback</i> – Press to start slow motion playback.</p> <ul style="list-style-type: none"> • To resume normal playback, press ▶ PLAY or II PAUSE. <p><i>While play-paused</i> – Press to advance one frame.</p> <ul style="list-style-type: none"> • To resume normal playback, press ▶ PLAY or II PAUSE.
	<p>Press during playback to skip forward on the tape. Press repeatedly to increase the skip time: 30 sec. – 1:00 min. – 1:30 min. – 2:00 min. – 3:00 min. – 5:00 min. – 10:00 min.</p>
	<p>Press to switch the audio channel for bilingual and stereo programs during playback.</p> <p>Bilingual: Main & Sub – Main – Sub – Main</p> <p>Stereo: Stereo – Left – Right – Mono</p>



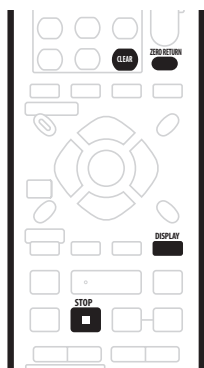
Note

- There is no sound when scanning or during slow motion playback.
- You may notice picture noise when scanning or during slow motion playback. This is normal.
- After about 5 min. of scanning, paused playback, slow motion playback or frame advance, normal playback will resume in order to avoid undue wear on the tape and tape head.

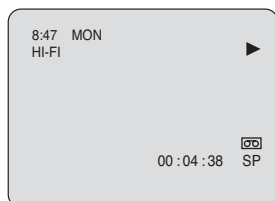
Zero Return

Set the counter to 00:00:00 at any point on the tape, then simply press **ZERO RETURN** to return to that point.

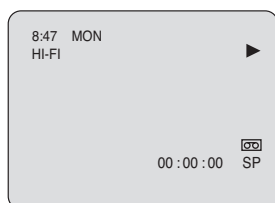
- When you first load a tape, the counter is always reset to zero (auto counter reset).
- The counter only changes when there is a signal recorded on the tape. It does not count blank sections.



1 During playback or recording, press DISPLAY to show the tape counter.



2 At the point you want to return to, press CLEAR to reset the tape counter.

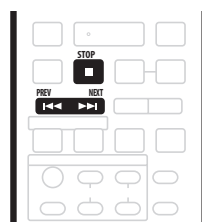


3 When you want to return to zero, press ■ STOP to stop playback (or recording), then press ZERO RETURN.

The recorder fast forwards or rewinds the tape as appropriate until the counter reaches 00:00:00 again.

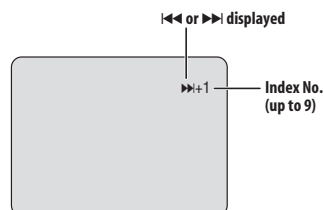
Searching for the start of a program

When you record a program, the recorder automatically puts an index marker (VISS index signal) on the tape at the beginning of the program. This can be used to easily find the start of the program.



1 Use the ◀◀ and ▶▶ buttons to find the previous/next index marker on the tape.

2 Press repeatedly to find other index markers further along the tape (up to 9).

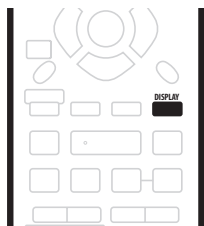


3 To cancel the search, press ■ STOP.

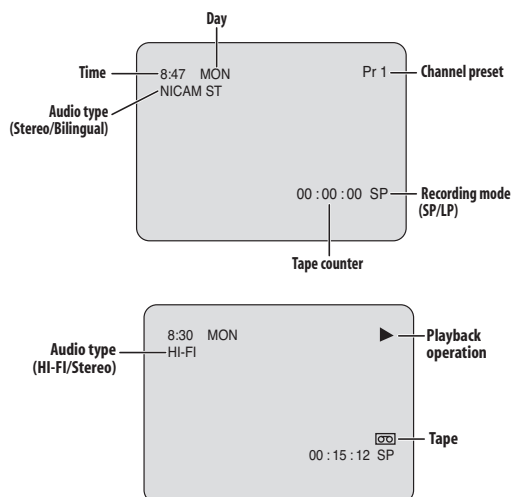
- Index search may not work as expected in the following cases:
 - If the start of the program was recorded on the header tape.
 - If there are two index markers very close to each other.
 - If the tape is very worn or bad quality.
 - If the index marker is located immediately before or after the point at which you start the index search.
- If recording is paused, an index marker is not put on the tape when the recording is restarted.

Displaying information on-screen

Various information can be displayed on-screen when in VHS mode.



- Press **DISPLAY** to display information on-screen while a tape is playing, or while watching TV from the built-in TV tuner.



Notes on playback/recording

- You can't record to VHS while playing from HDD or DVD.
- It is not possible to set timer recordings to record to VHS.
- For how to copy from HDD or DVD to VHS see page *Copying between VHS and DVD/HDD* on page 86.
- While in VHS mode, if you press **HOME MENU**, **GUIDE** or **TIMER REC**, the recorder will automatically switch to HDD.
- To protect a recording on tape from accidental erasure, use a screwdriver or similar to break off the erase-protect tab. If you want to record over the tape at a later date, cover the hole with Scotch tape.

Chapter 9

HDD and DVD copying and back-up

Introduction

Use the copying features of this recorder to:

- Back up important recordings stored on the HDD to a DVD.
- Make a DVD copy of a recording on the HDD to play in another player.
- Transfer video from a DVD to the HDD for editing.
- Transfer edited video from the HDD to DVD.

The simplest way to copy a title is to use either the One Touch Copy or Copy Select feature. These both copy the currently playing HDD title to DVD, or DVD title to the HDD. See *One Touch Copy: HDD ↔ DVD* below or *Copy Select: HDD ↔ DVD* on page 77 for detailed instructions.

For more sophisticated copying tasks you can build a Copy List of titles to copy, and edit titles so that you only copy the bits you want. See *Copy Select: HDD ↔ DVD* on page 77 for detailed instructions.

Where possible, the recorder will copy your recordings at high-speed. Depending on the recording mode, the kind of disc loaded and various other factors, copying can be as fast as one minute per hour of video. See *Minimum copying times* on page 120 for more on copying times.

If you want to save disc space you can copy video at a lower recording quality (for example, an XP recording on the HDD copied to SP on a DVD). Copying in this way is always done in real-time.

When real-time copying from the HDD to a Video mode DVD, the chapter markers in the original material are not copied. Chapter markers are put into the copy at intervals, according to the Auto Chapter (Video) setting (see also *Auto Chapter (Video)* on page 114).

Restrictions on copying

Some video material is copy-once protected. This means that it can be recorded to HDD, but it can't then be freely copied again. If you want to transfer copy-once protected material from HDD to DVD, you'll need to use a VR mode disc compatible with CPRM Ver. 1.1 or higher (see *CPRM* on page 51 for more on this). Only one instance of a copy-once protected title can be added to the Copy List, and after it's been copied, the title is erased from the HDD (it is therefore not possible to copy a locked title that is copy-once protected).

You can identify copy-once protected material during playback by displaying disc information on-screen. If the current title is copy-once protected, an exclamation mark (!) is shown (see *Play display 2* on page 38).

Copyright

Recording equipment should be used only for lawful copying and you are advised to check carefully what is lawful copying in the country in which you are making a copy. Copying of copyright material such as films or music is unlawful unless permitted by a legal exception or consented to by the rightowners.

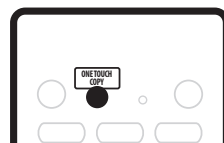
One Touch Copy: HDD ↔ DVD

* See also *Copyright* above.

The One Touch Copy feature copies the currently playing or selected (in the Disc Navigator) HDD title to DVD, or DVD title to HDD. The whole title is copied, regardless of where in the title you start the copy.

HDD to DVD copies are made in the same recording mode. When copying DVD to HDD, the copy is made in whatever recording mode is currently set.

Make sure that a recordable DVD-R/RW disc is loaded when trying to copy from the HDD.



1 If you're copying from DVD to the HDD, use the REC MODE button to select a recording mode.

Note that selecting a recording mode higher than the title playing will not result in a better quality recording.

2 During playback, press ONE TOUCH COPY to copy the current title.

The front panel display indicates that the title is being copied.

- High-speed copying is used when copying from the HDD to DVD. Playback continues while copying.
- Real-time copying is used when copying from DVD to the HDD. Playback restarts from the beginning of the title.

Canceling One Touch Copy

You can cancel One Touch Copy once it's started.

- **Press and hold ONE TOUCH COPY for more than a second.**

Copying is canceled and the video already copied is erased.

- If you cancel a HDD to DVD-R copy, the space available for recording does not return to the pre-copy figure.

Notes on copying using One Touch Copy

Copying to DVD

- Title name, chapter markers, as well as thumbnail picture markers for the Disc Navigator, are also copied. However, if you copy to a Video mode DVD-R/RW, only the first 40 characters of a name are copied.
- The chapter markers in the copy may not be in exactly the same positions as the original when recording on to a Video mode disc.
- You can't use the One Touch Copy function to copy a title if any part of the title is copy-once protected.
- A title that contains mixed aspect ratios can't be copied to a Video mode disc. Use a VR mode disc for this type of material.
- Low resolution (**SEP** through **LP** modes¹) widescreen material can't be copied to a Video mode disc. Use a VR mode disc for this type of material.
- When HDD Recording Format is set to Video Mode Off, titles recorded in **LP/MN9–15** modes cannot be high-speed copied to a Video mode DVD. Please use a VR mode disc.
- Recordings of bilingual broadcasts cannot be high-speed copied to a Video mode DVD. Please use a VR mode disc.
- **XP+** titles cannot be copied to DVD at high-speed.

Copying to the HDD

- The maximum title length for copying is 12 hours.
- Title name and chapter markers are also copied, except when copying from a finalized Video mode disc.
- Thumbnail picture markers and chapter markers for the Disc Navigator are copied, but their position in the copy may be slightly changed from the original.
- If some part of the title being copied is copy-protected, copying will start, but the copy-protected portions will not be copied.

Copy Select: HDD ← → DVD

Similar to *One Touch Copy* above, this feature automatically starts and finishes the HDD or DVD recording with the source title playback.

1 If you're recording from DVD to HDD, you can select the recording mode.

For more on recording modes see *Recording time and picture quality* on page 51.

2 Select the title you want to record.

3 Select the copy mode that corresponds with your input source and copy medium.

Pressing **COPY SELECT** repeatedly switches between copy modes (choose **HDD → DVD** or **DVD → HDD**). The current mode is displayed in the front panel.

4 Press **START** to begin recording.

- **HDD → DVD** – After pressing **START**, high-speed recording starts from the beginning of the current title.
- **DVD → HDD** – After pressing **START**, playback automatically jumps to the beginning of the current title and recording begins (at normal speed).

Using Copy Lists

* See also *Copyright* on page 76.

At its simplest, a Copy List is just a list of HDD or DVD titles that you want to copy. When copying HDD titles to DVD, you can, however, edit the titles in your copy list, erasing chapters you don't need, or re-naming titles, for example. Edits you make to titles in the Copy List do not affect the actual video content; only the 'virtual' content of the Copy List. So you can freely erase and modify anything in your Copy List safe in the knowledge that the actual content is not being altered.

Copying from HDD to DVD



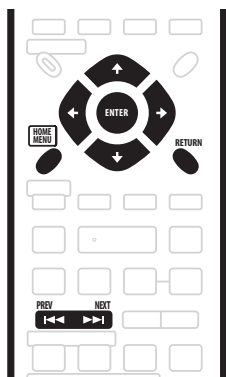
Important

- The recorder can only store one Copy List at a time.
- The Copy List is erased if the Input Line System setting is changed (see *Additional information about the TV system settings* on page 116).

Note

1. In manual recording mode these equate to **MN1–15** (Video Mode Off) or **MN1–11** (Video Mode On).

- Resetting the recorder to its factory settings (see *Resetting the recorder* on page 118) will erase the Copy List.

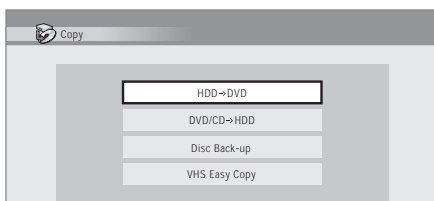


1 Press HOME MENU and select 'Copy'.



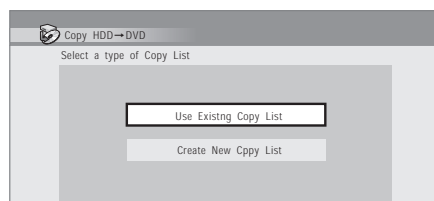
2 Select 'HDD → DVD'.

If this is the first time to create a Copy List, skip to step 4 below.



3 If there is already a Copy List stored in the recorder, choose whether to 'Create New Copy List' or 'Use Existing Copy List'.

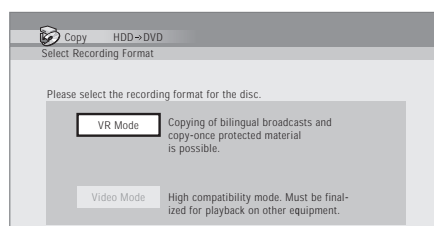
If you select **Use Existing Copy List**, skip to step 8 below.



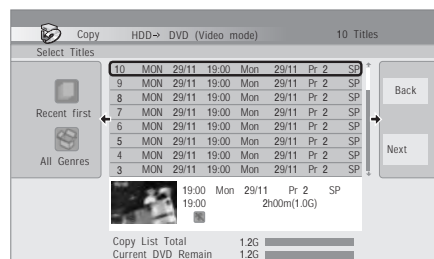
- Selecting **Create New Copy List** will erase any Copy List already stored in the recorder.

4 Select VR mode or Video mode for the copy.

For certain kinds of material you must use VR mode; for greater compatibility with other players, use Video mode.



5 Use the ↑/↓ buttons to highlight titles you want to copy, pressing ENTER after each one to add it to the Copy List.



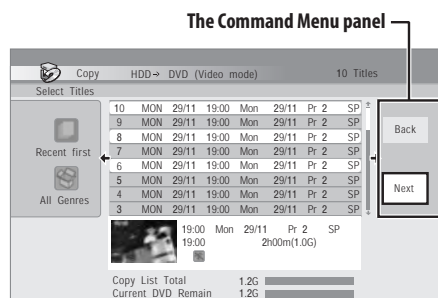
Titles you've added to the Copy List are highlighted in pink.

There are some restrictions on titles that can be added to the Copy List if you are copying to a Video mode DVD:

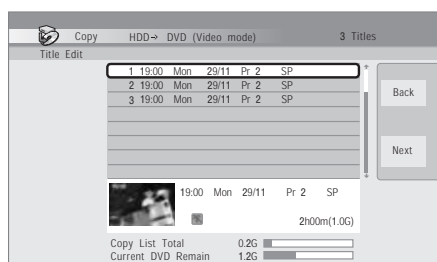
- When adding titles that contain copy-once protected material, the copy-once parts will not be added.
- When adding titles that contain material of more than one aspect ratio (screen size), each part with a different aspect ratio will be added as a separate title if high-speed copying is possible.

Depending on the title¹, high-speed copying may not be possible to a Video mode disc.

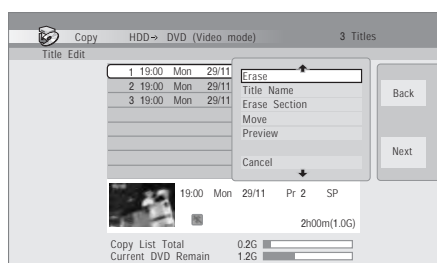
6 Press **→** to display the command menu panel.



7 Select 'Next' to move on to the Title Edit screen.



8 To edit a title, highlight it using the **↑/↓** buttons, then press **ENTER**.



A menu of editing commands appears:

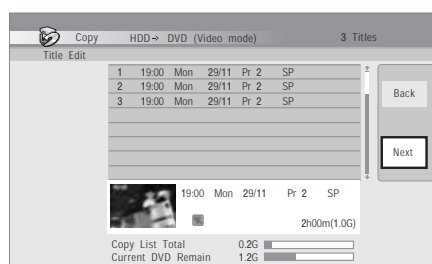
- **Erase** – Erase individual titles from the Copy List (see page 80).
- **Title Name** – Name or rename a title in the Copy List (see page 81).
- **Erase Section** – Erase part of a title (see page 81).
- **Move** – Change the order of titles in the Copy List (see page 82).

- **Preview** – Check the content of a title in the Copy List (see page 82).
- **Divide** – Divide a title in the Copy List into two (see page 82).
- **Combine** – Combine two titles in the Copy List into one (see page 82).
- **Chapter Edit** – Edit chapters within a Copy List title (see page 83):
 - **Divide** – Divide a chapter into two.
 - **Erase/Move** – Erase a chapter/Change the chapter order.
 - **Combine** – Combine two chapters into one.
- **Set Thumbnail** – Set the thumbnail frame for a title (see page 83).
- **Recording Mode** – Set the picture quality of the copy (see page 84).
- **Bilingual** – Set how bilingual audio should be copied when copying from HDD to Video mode DVD (see page 84).
- **Cancel** – Exit the Copy List screen without saving any changes.

Repeat this step for as many titles you have that need editing.

9 Press **→** to display the command menu panel.

10 Select 'Next' to proceed to the Start Copy screen.



- Select **Recording Mode** if you want to change the recording quality (see *Recording Mode* on page 84).
- Select **Input Disc Name** if you want to change the disc name. Input a name of up to 64 characters for a VR mode disc or 40 characters for a Video mode disc. (The input method is similar to that of naming titles; see *Title Name* on page 81.)
- Select **Finalize** if you want to automatically finalize a Video mode DVD after copying.² Select a title menu style from the next screen.

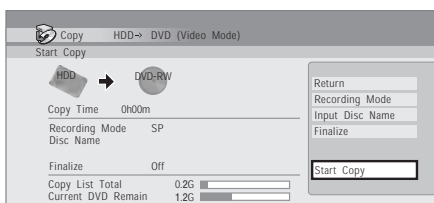
Note

1. • Widescreen titles recorded at low resolution (**SEP** through **LP/MN1-15** (Video Mode Off) or **MN1-11** (Video Mode On).

- **LP/MN9-15** recordings when HDD Recording Mode is set to Video Mode Off.
- Bilingual recordings.
- Combined titles that were originally recorded using different recording modes.
- **XP+** titles.

2. If a timer recording is scheduled to start during copying, the disc will not be finalized.

11 Select 'Start Copy' to start copying.



- If you're using a dual-layer disc and the copy will span both layers, the **Copy List Total** bar will be purple.
- The **Current DVD Remain** bar will be half-length if the first layer of a dual-layer disc is already full.

Copying from DVD to HDD



Important

- The DVD to HDD Copy screen isn't accessible when a finalized Video mode disc is loaded. However, you can still use the One Touch Copy function (See *One Touch Copy: HDD ↔ DVD* on page 76).
- The recorder can only store one Copy List at a time.
- The Copy List will be erased if:
 - any of the titles on the DVD disc are erased or edited.
 - the disc tray is opened.
 - playback is switched between Play List and Original.
 - the DVD disc is re-initialized or finalized.
 - the recorder is reset to its factory settings (see *Resetting the recorder* on page 118).
- It may not be possible to copy from a DVD disc that was recorded on a different DVD recorder or a PC.

- 1 Press **HOME MENU** and select '**Copy**'.
- 2 Select '**DVD/CD → HDD**'.
- 3 If there is already a Copy List stored in the recorder, choose whether to '**Create New Copy List**' or '**Use Existing Copy List**'.
 - Selecting **Create New Copy List** will erase any Copy List already stored in the recorder.
- 4 Use the **↑/↓** buttons to highlight titles you want to copy, pressing **ENTER** after each one to add it to the Copy List.
Titles you've added to the Copy List are highlighted in pink.
- 5 Press **⇒** to display the command menu panel.
- 6 Select '**Next**' to move on to the Title Edit screen.

7 To edit a title, highlight it using the **↑/↓** buttons, then press **ENTER**.

A menu appears of Copy List editing commands:

- **Erase** – Erase individual titles from the Copy List (see page 80).
- **Move** – Change the order of titles in the Copy List (see page 82).
- **Preview** – Check the content of a title in the Copy List (see page 82).
- **Cancel** – Exit the Copy List screen without saving any changes.

Repeat this step for as many titles you have that need editing.

8 Press **⇒** to display the command menu panel.

9 Select 'Next' to proceed to the Start Copy screen.

- Select **Recording Mode** if you want to change the recording quality (see *Recording Mode* on page 84).

10 Select 'Start Copy' to start copying.

Title editing commands

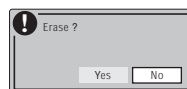
The following commands are available from the command menu panel in the Title Edit screen. To display the command menu panel, press **⇒**.

Remember that some of the commands (Title Name, Erase Section, etc.) are only available when copying from HDD to DVD.

Erase

Use this command to erase individual titles from the Copy List.

- 1 Highlight the title you want to erase.
- 2 Select '**Erase**' from the command menu panel.
- 3 Select '**Yes**' to confirm or '**No**' to cancel, then press **ENTER**.



Tip

- You can erase a title quickly by pressing **CLEAR** when the title is highlighted. Confirm the edit by pressing **ENTER**.

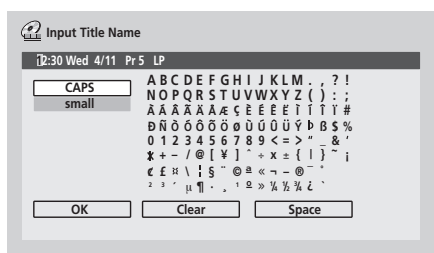
Title Name

Use this command to name or rename titles in the Copy List (the names of the original titles remain unchanged). When copying to a Video mode disc, the name length is limited to 40 characters; for a VR mode disc, the limit is 64 characters.

1 Highlight the title you want to name (or rename).

2 Select 'Title Name' from the command menu panel.

3 Input a name for the selected title.



- Use the **↑/↓/←/→** and **ENTER** to select characters.
- A name generated automatically by the recorder will already be in the name input section of the screen. Use the **◀◀/▶▶** buttons to change the cursor position.
- Select **CAPS** or **small** to change to upper or lower-case, or use the **CASE SELECTION** buttons (**◀◀/▶▶**).
- You can also use the **CLEAR** button to delete characters directly (press and hold for two seconds to delete the whole name). For other remote control key shortcuts, see *Using the remote key shortcuts to input a name* on page 93.
- For discs formatted on a different DVD recorder, you will see only a limited character set.

4 Highlight 'OK' then press ENTER to enter the name and return to the Copy List.

- To return to the main Copy List screen without saving changes to the title name, press **RETURN**.

Erase Section

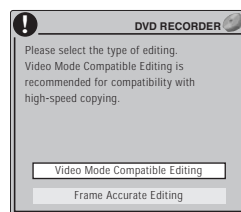
Using this command you can delete a part of a Copy List title, ideal for cutting out the commercial breaks in a recording made from the TV.

1 Highlight the title containing the section you want to erase.

2 Select 'Erase Section' from the command menu panel.

The Erase Section screen appears from which you can mark the start and end points of the section to erase.

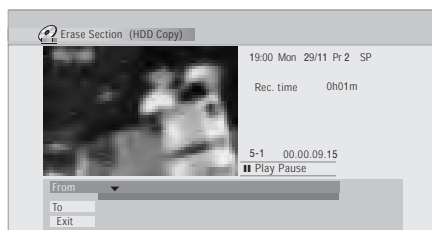
3 Select the type of edit.



- **Video Mode Compatible Editing** – Edit points cannot be set with absolute precision, but high-speed copying to Video mode DVD will be possible.
- **Frame Accurate Editing** – Exact edit points are preserved, but high-speed copying to Video mode DVD will not be possible.
- For more information about these options, see *Editing accuracy* on page 91.

4 Highlight 'From' then use the playback controls (▶, II, ◀◀, ▶▶, etc.) to find the start of the section to erase, then press ENTER.

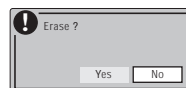
The bar at the bottom of the screen indicates the current play position in the title. After pressing **ENTER**, a marker shows the start of the section.



5 Highlight 'To' then, in the same way, find the end of the section to erase, then press ENTER.

After pressing **ENTER**, another marker indicates the end of the section, with the section itself marked in red.

6 Select 'Yes' to confirm, or 'No' to cancel, then press ENTER.

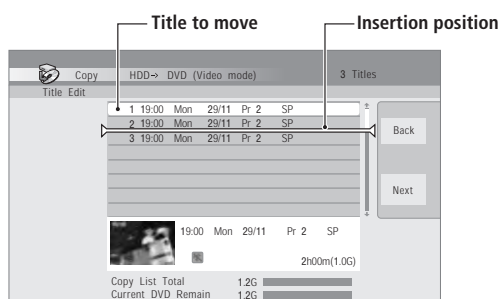


In the thumbnail viewer you can see a few seconds of video either side of the marked section to see how the edit will look.

Move

Use this command to change the order of titles in the Copy List.

- 1 Highlight the title you want to move and press **ENTER**.
- 2 Select 'Move' from the command menu panel.
- 3 Move the insert bar to the new position for the title and press **ENTER**.



Preview

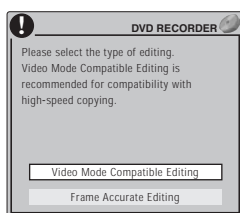
Use this command to check what's in a title.

- 1 Highlight the title you want to preview.
- 2 Select 'Preview' from the command menu panel. The selected title starts to play. Use any of the usual playback controls to scan, skip, play in slow-motion, etc.
- 3 To get back to the Copy List, press **RETURN**.

Divide

Use this command to make two titles from a title already in the Copy List.

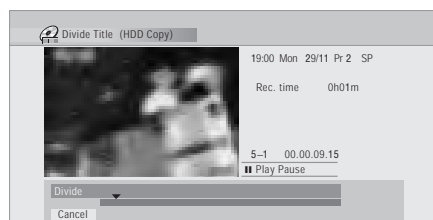
- 1 Highlight the title you want to divide.
- 2 Select 'Divide' from the command menu panel.
- 3 Select the type of edit.



- **Video Mode Compatible Editing** – Edit points cannot be set with absolute precision, but high-speed copying to Video mode DVD will be possible.
- **Frame Accurate Editing** – Exact edit points are preserved, but high-speed copying to Video mode DVD will not be possible.

- For more information about these options, see *Editing accuracy* on page 91.

- 4 Use the playback controls (▶, II, ◀◀, ▶▶, etc.) to find the place you want to divide the title.

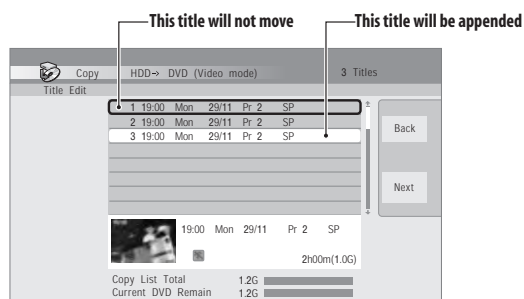


- 5 Press **ENTER** to divide the title at the current playback position.

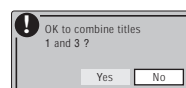
Combine

Use this command to make a single title from two titles in the Copy List. The second title selected will be appended to the first.

- 1 Highlight the title you want to combine with another, then press **ENTER**. This title will not move. The next title you select will be appended to this one.
- 2 Select 'Combine' from the command menu panel.
- 3 Select the title you want to append to the first, then press **ENTER**. This title will effectively move to be added to the end of the first title. In the example below, title 3 will be appended to title 1.



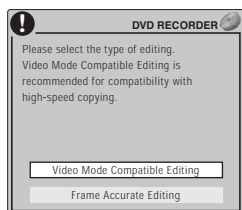
- 4 Select 'Yes' to confirm or 'No' to cancel, then press **ENTER**.



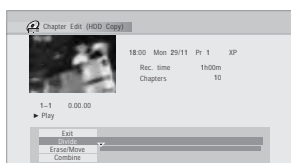
Chapter Edit

The Chapter Edit option gives you access to several commands that you can use to edit chapters within a Copy List title.

- 1 Highlight the title that contains the chapters you want to edit.
- 2 Select 'Chapter Edit' from the command menu panel.
- 3 Select the type of editing.



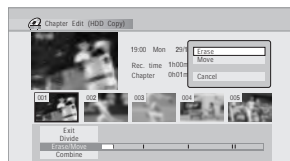
- **Video Mode Compatible Editing** – Edit points cannot be set with absolute precision, but high-speed copying to Video mode DVD will be possible.
 - **Frame Accurate Editing** – Exact edit points are preserved, but high-speed copying to Video mode DVD will not be possible.
 - For more information about these options, see *Editing accuracy* on page 91.
- 4 Select the command you want:
 - **Divide** – Divide a chapter into two or more parts: Use the playback controls (▶, II, ◀◀, ▶▶, etc.) to find the point at which you want to divide the chapter, then press **ENTER**.



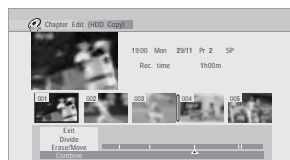
You can keep dividing the chapter as many times as you wish (up to 99 per title).

- **Erase/Move** – Erase or move chapters: Select the chapter you want to erase/move and press **ENTER**. Select whether you want to erase or move the chapter.

Move command only: Select the destination for the chapter, and press **ENTER**.



- **Combine** – Combine two adjacent chapters into one: Highlight the bar divider between two adjacent chapters and press **ENTER**.

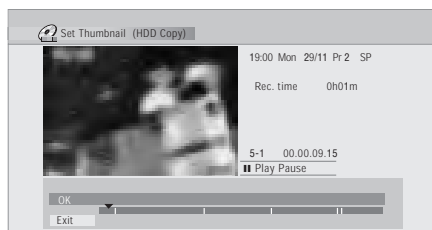


- 5 Select 'Exit' to get back to the main Copy List screen.

Set Thumbnail

You can change the thumbnail picture that appears in the four-title display of the Disc Navigator for a title to any frame that appears in that title.

- 1 Highlight the title you want to change the thumbnail picture for.
- 2 Select 'Set Thumbnail' from the command menu panel. The thumbnail setting screen appears from which you can find the frame you want.
- 3 Use the playback controls (▶, II, ◀◀, ▶▶, etc.) to find a suitable frame, then press **ENTER** to set. You can also use the chapter and time search features (press **PLAY MODE**), and the **CM SKIP** buttons.



- 4 Select 'Exit' to return to the Copy List screen.

Recording Mode

- 1 Select 'Recording Mode' from the command menu panel.
- 2 Use the **↑/↓** buttons to select a recording mode for the copy.

- **High-Speed Copy**¹ – The Copy List is copied at the same recording quality as the original.
- **XP, SP, LP, EP, SLP, SEP, MN**² – The Copy List is copied at the specified recording quality in real-time. (Note that if you copy at a higher quality setting than the original, the copy will not be better quality than the original.)

If you select **MN** above, you can also change the level setting (**MN1–MN32, LPCM** or **XP+**³) from the Recording Quality box that appears.

- **Optimized**^{2,4} – The recording quality is automatically adjusted so that the Copy List fits on to the space available on the disc. Copying is carried out in real-time.

When you change the recording mode setting, you can see how much disc space it will require. If this is more than is available, it shows up in red and you won't be able to start copying. In this case, either change the recording quality, or press **RETURN** to go back to the Copy List screen and erase one or more titles from the Copy List.

- 3 Press **ENTER**.

Bilingual

- 1 Select the title containing the audio you want to change.
- 2 Select 'Bilingual' from the command menu panel.
- 3 Use the **↑/↓** buttons to select a bilingual audio option.
- 4 Press **ENTER**.

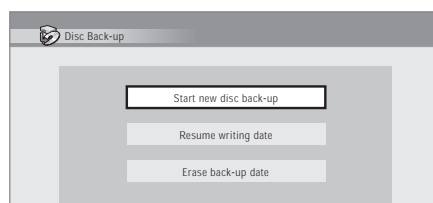
Using disc back-up

* See also *Copyright* on page 76.

This feature offers a simple way to make a back-up copy of a finalized Video mode disc. The data is copied first to the hard disk drive⁵, then on to another recordable DVD disc.

- 1 Press **HOME MENU**, select 'Copy', then 'Disc Back-up'.

- 2 Select a back-up option.

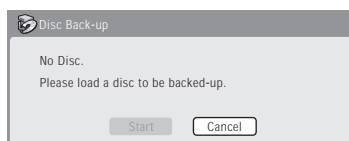


There are three back-up options:

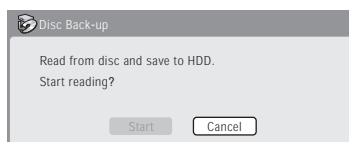
- **Start new disc back-up** – Start making a back-up of a disc.
- **Resume writing data** – Record the back-up data already on the HDD to a recordable DVD.
- **Erase back-up data** – Erase the back-up data on the HDD.

- 3 Press **△ OPEN/CLOSE** to open the disc tray and load the disc you want to make a back-up of, then close the disc tray.

You can only make back-up copies of finalized Video mode discs.



- 4 Select 'Start'.



- To see the progress of the back-up, press **DISPLAY**.

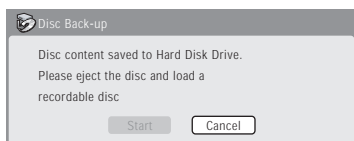
Note

1. When copying to a Video mode DVD, the chapter markers in the copy may not be in exactly the same position as the original.
2. When the copy mode is set to something other than High-Speed Copy for copying to a Video mode DVD, the chapter markers of the original are not copied. Chapter markers are put into the copy at regular intervals, according to the Auto Chapter setting (see also *Auto Chapter (Video)* on page 114).
3. XP+ mode available only when copying to HDD.
4. Optimized mode only available when copying to DVD.
5. It is not possible to play this material directly from the HDD.

- You can cancel the back-up process by pressing **ONE TOUCH COPY** for more than one second.

5 When the data has been copied, press ▲ OPEN/CLOSE to open the disc tray. Take out the disc and load a blank* recordable DVD.

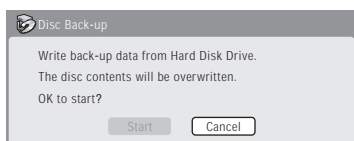
** If you're using a DVD-RW, the disc doesn't have to be blank, although the previous contents of the disc will be erased in the back-up process.*



You can use a DVD-R Ver. 2.0 or 2.1 disc, or DVD-RW Ver. 1.1 or Ver. 1.2 disc for the back-up.

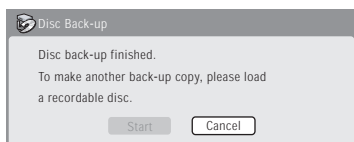
- If you back-up a DVD-R disc to DVD-RW, you cannot undo the finalization later.
- Actual recordable capacity of discs vary so there may be cases where the contents of the disc you're backing-up will not fit on to a particular blank disc. If this happens, please try another brand of disc.

6 Select 'Start' to start writing the backed-up data to the blank disc.



- To see the progress of the back-up, press **DISPLAY**.
- You can cancel the back-up process by pressing **ONE TOUCH COPY** for more than one second. However, this will make the disc unusable (although if you are using a DVD-RW disc you can re-initialize it in order to make it usable again—see *Initializing a recordable DVD disc* on page 60.)

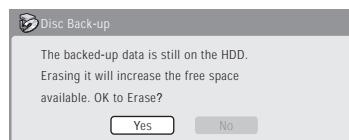
7 After the recorder has finished recording the back-up disc, you can select whether to make another back-up of the same data or exit.



- Select **Start** to make another back-up copy or **Cancel** to finish. If you want to make another back-up copy, return to step **6** above.

8 If you don't need to keep the back-up data on the HDD, you can delete it now.

Select **Yes** to delete the data from the HDD; select **No** to keep it (you can delete it later if you want to).



- If you decide to leave the back-up data on the HDD, you can make back-up copies to recordable DVD discs anytime from the Disc Back-up menu.

Chapter 10

Copying between VHS and DVD/HDD

Introduction

With this recorder, you can copy between VHS tape, HDD and DVD.

- Copy a VHS tape to fit onto a DVD disc (VHS Auto Copy).
- Copy a VHS tape to HDD for editing, then copy the edited version to a DVD (6-Way Copy).

If you want to be able to play your copied DVD on another DVD player, you should finalize the disc after recording. Note that if you use VHS Auto Copy to copy a tape to a Video mode DVD-R/RW, it will automatically be finalized after copying.

After copying, if no action is performed for about 20 minutes, the recorder will automatically switch itself off.

Limitations when copying

- It is not possible to monitor the recorded signal while copying.
- The [Screen Display] of the copy source is automatically set to Off when copying.
- Copying will be canceled automatically in the following cases:
 - If the copy source stops.
 - If the tape becomes unrecordable for any reason.
 - If the tape runs out.
- During copying, if there is a section of copy-protected material on the source then copying will be suspended. The source will continue to play and copying will resume when the copy-protected section has passed.
- Audio is recorded as either stereo, or main and sub channels. Select the type of audio to copy from the *VHS Copy Audio* on page 112.
- It is not possible to copy a tape that contains mixed PAL, NTSC and SECAM programs.

Copying bilingual VHS recordings

Make sure you set the audio to be copied to the DVD before starting.

- When recording to a Video mode DVD-R/RW, set the audio to be recorded as either the main or sub channel. Set the VHS Copy Audio setting (page 112) to **Bilingual**, and the Bilingual Recording setting (page 111) to **A/L** or **B/R**.

Adjusting the recording level of the VHS source

See *VHS Audio Level* on page 112 for how to adjust the recording level of the VHS source audio.

Copying with VHS index markers

When recording from VHS, you can specify whether a new chapter (VR mode only) or a new title (VR or Video mode) should start whenever an index marker (VISS signal) is encountered on the tape.

- This may not work properly if there are two index markers very close (less than 1 minute) to each other.
- If a tape has many index markers, the recording time may be longer than the original program length.

See the *Indexed Copy* on page 109 to specify whether you want chapters/titles inserted at the same point as VHS index markers (VISS signals) on the source tape (it is also possible to tell the recorder to ignore the index markers so that the tape is recorded as just one title/chapter).

Using Auto Blank Cut

If you switch the Auto Blank Cut feature on (see *Auto Blank Cut* on page 109), copying will automatically pause during sections of tape where nothing is recorded. If there is more than five minutes of non-recorded tape then copying will stop completely. Note that this feature is only available when recording from **VHS → HDD/DVD**.

VHS Auto Copy: VHS → DVD

This feature automatically adjusts the recording mode of the DVD so that the whole VHS tape fits on to one DVD disc.



1 Load a blank, recordable disc into the recorder.

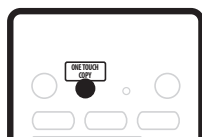
- If you want to record the disc in VR mode, you must initialize the disc for VR mode recording first. See *Initializing a recordable DVD disc* on page 60.
- If the VHS source is recorded with bilingual audio, set the VHS Copy Audio setting (page 112) to **Bilingual**.

2 Load the VHS tape you want to copy.

3 Press VHS AUTO COPY.¹

The recorder will first determine the length of the tape. This takes a few moments.

- To cancel copying, press and hold **ONE TOUCH COPY** for more than a second.



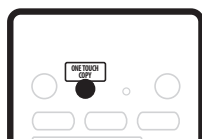
About automatic finalization

If you use a Video mode DVD-R/RW disc for copying, it will automatically be finalized after copying is complete.

- You can't customize the background for DVD-R/RW disc finalization.
- No title names are assigned.
- If you want to give the disc a name, please do so before you start the copy (see *Title Name* on page 81).
- If a timer recording is scheduled to start, and in some other instances, the disc will not be finalized.

One Touch Copy: VHS → HDD

During VHS playback, One Touch Copy starts copying the currently playing VHS material to the HDD.



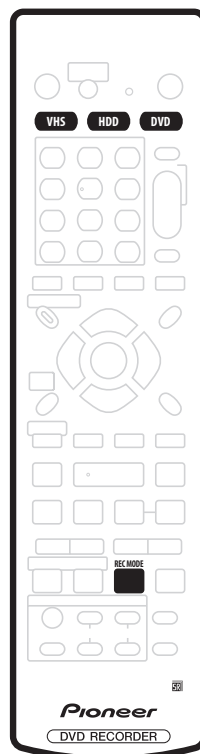
1 Press REC MODE to select the HDD recording mode.

2 Load and play the source tape.

3 From the point at which you want to start copying, press ONE TOUCH COPY.

Copy Select: VHS → HDD/DVD

This feature lets you record from any point in the tape to the end, to either HDD or DVD (assuming there is enough space on the HDD/DVD).



1 Press VHS to switch to VHS.

2 Load the tape you want to copy.

3 Find the point on the tape that you want to copy from.

4 Select 'HDD' or 'DVD' depending on where you want to copy to.

Note

- Regardless of the setting for *Auto Blank Cut* on page 109, copying will pause if there is a section of tape with nothing recorded on it. If there is more than five minutes of non-recorded tape then copying will stop completely.
 - If you are copying to a Video mode DVD-R/RW then the disc will be automatically finalized after copying is complete.
 - After copying, the tape is automatically rewound and ejected.

5 If you're recording to DVD, load a blank, recordable disc into the recorder.

- If you want to record the disc in VR mode, you must initialize the disc for VR mode recording first. See *Initializing a recordable DVD disc* on page 60.
- Make sure that HDD, DVD and VHS playback is stopped.

6 Select the recording mode.

- For more on recording modes see *Recording time and picture quality* on page 51.
- If the VHS source is recorded with bilingual audio, set the VHS Copy Audio (page 112) setting to **Bilingual**.

7 Select the copy mode that corresponds with your copy medium.

Pressing **COPY SELECT** repeatedly switches between copy modes (choose **VHS → HDD** or **VHS → DVD**). The current mode is displayed in the front panel.

8 Press START to begin copying.

- To cancel copying, press and hold **ONE TOUCH COPY** for more than a second.

7 Press START to begin recording.

After pressing **START**, playback automatically returns to the beginning of the current title and recording begins.

- If the **CM SKIP** feature is set to **AUTO**, it is cancelled when recording from the HDD.
- Recording stops automatically when you reach the end of the title.
- During recording, you won't be able to access screens like the Home Menu, the Timer Recording menu or the Guide Plus+ screen.



Tip

- For copying between the HDD and DVD, see the previous chapter, *HDD and DVD copying and back-up* on page 76.

Copy Select: HDD/DVD → VHS

Using this feature, you can have a VHS recording automatically start and finish with HDD/DVD title playback.

1 Press VHS to switch to VHS.

2 Select the VHS recording mode.

- Choose between SP (Standard) and LP (2 x) recording speed.

3 Prepare your VHS videotape for recording.

- Insert a blank tape, or select the point on the tape that you want to record from (see *VHS playback and recording* on page 71 for more on this).
- Make sure there is enough space left on the tape for recording.
- Make sure playback is stopped.

4 Select 'HDD' or 'DVD' as the input source.

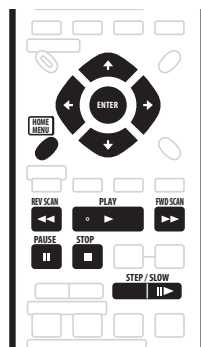
5 Select the title you want to record.

6 Select the copy mode that corresponds with your input source.

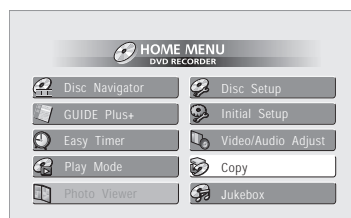
Pressing **COPY SELECT** repeatedly switches between copy modes (choose **HDD → VHS** or **DVD → VHS**). The current mode is displayed in the front panel.

VHS Easy Copy: VHS → HDD/DVD

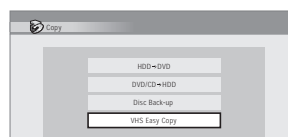
You can make a copy of a VHS tape to HDD or DVD using the on-screen displays to navigate the process.



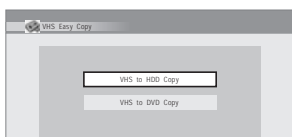
1 Press HOME MENU and select 'Copy'.



2 Select 'VHS Easy Copy'.



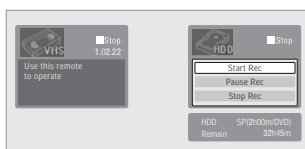
- 3 Select 'VHS to HDD Copy' or 'VHS to DVD Copy'.



- 4 Load the source tape and find the point you want to copy from.

Use the usual VCR playback controls on the remote control for this.

- 5 Select 'Start Rec' to start copying.



Chapter 11

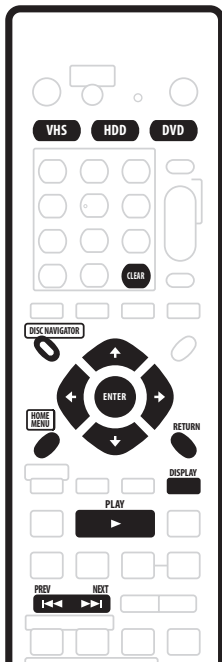
HDD and DVD editing

The Disc Navigator screen

The Disc Navigator screen is where you can edit video content on unfinalized Video mode and VR mode DVD discs¹, as well as video content on the internal hard disk drive.

**Important**

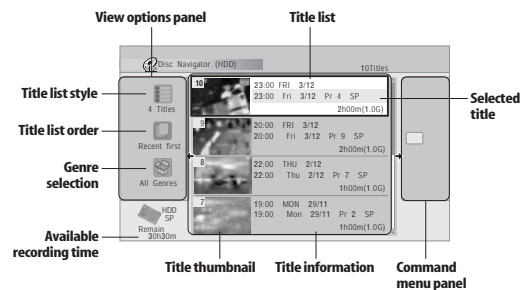
- Titles that have been recorded with a Line Input setting different to the current setting of the recorder are shown in the Disc Navigator with a blank thumbnail image. See also *Additional information about the TV system settings* on page 116.
- During recording, if you display the Disc Navigator for the HDD, some of the titles may appear with a mark. These titles were recorded with a Line Input setting different to the current setting of the recorder. During recording, these titles cannot be played.



1 Press HDD or DVD to select the hard disk drive or the DVD.

2 Press DISC NAVIGATOR to display the Disc Navigator screen.

Playback will automatically stop when you do this.



- You can also access the Disc Navigator from the Home Menu (press **HOME MENU**, select **Disc Navigator** then press **ENTER**).
- From the title list, press **→** to display the command menu panel. Use the **↑/↓** and **ENTER** buttons to navigate the menus.
- When in the title list, use the **PREV (◀◀)** and **NEXT (▶▶)** buttons to display the previous/next page if there are more titles than can be displayed.
- Press **DISPLAY** to change the title information displayed in the title list.
- If you are editing a VR mode disc you can display the Play List by selecting **Play List** from the view options panel (press **←**, then select **Play List** from the view options, then **Play List**).



- You can switch between the HDD and the DVD Disc Navigator screens using the **HDD** and **DVD** buttons (front panel or remote).

Titles on the HDD marked with a icon are timer recordings set to Auto Replace Recording (see *Editing a scheduled recording* on page 44).

Titles on the HDD marked with a **NEW** icon are recently recorded titles that haven't yet been played.

3 To exit the Disc Navigator, press HOME MENU.

Note

1. It isn't possible to edit video on DVD-RAM discs using this recorder.

Command menu panel options

The table below shows which commands you can use with which video type.

	HDD	DVD Video mode	DVD VR mode (Original)	DVD VR mode (Play List)
Create (page 92)				●
Play (page 92)	●	●	●	●
Erase (page 92)	●	●	●	●
Edit > Title Name (page 92)	●	●	●	●
Edit > Set Thumbnail (page 93)	●	●	●	●
Edit > Erase Section (page 94)	●		●	●
Edit > Divide (page 94)	●			●
Edit > Chapter Edit (page 95)	●		●	●
Edit > Set Genre (page 96)	●			
Edit > Lock (page 96)	●	●	●	
Edit > Move (page 96)				●
Edit > Combine (page 97)				●
Genre Name (page 97)	●			
Multi-Mode (page 97)	●			
Undo (page 98)		●	●	●

Editing accuracy

Some editing (and Copy List) commands ask you whether you want to keep Video mode compatibility or frame accuracy (*Video mode compatible editing*, or *Frame accurate editing*).

Frame accurate editing is very precise. The edit point is accurate to the exact frame you choose. However, this accuracy is not preserved in any copy you make if you use the high-speed copy function to make a Video mode DVD.

Video mode compatible editing is less precise. The edit point you choose will only be accurate to within 0.5–1 second. On the other hand, these edit points will be preserved if you use high-speed copy to make a Video mode DVD.

HDD genres

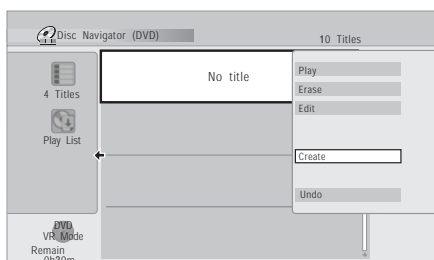
The large capacity of the HDD means that there may be many hours of video in the recorder. To help you organize your HDD video content you can assign different genres to titles. There are nine genres in total, including five user-definable ones that you can name as you like.

Create

VR mode *Play List only*

Use this function to create a Play List and add titles to it. Before you can use this command, make sure that the Play List is switched on in the view options panel on the left.

- 1 Select 'Create' from the command menu panel.



- 2 Select a title to add to the Play List.

Use the **↑/↓** buttons to highlight an Original title then press **ENTER** to add it and display the Play List.

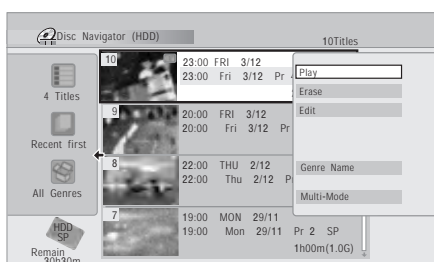
- 3 Repeat steps 1 and 2 to add as many titles as necessary to the Play List.

Play

HDD **Video mode** **VR mode**

Use this function to start playback of a title.

- 1 Highlight the title you want to play.
- 2 Select 'Play' from the command menu panel. Playback of the title you selected starts.



Erase

HDD **Video mode** **VR mode**

Use this function to erase unwanted titles.

When you erase titles from the HDD or Original titles from a VR mode DVD-RW, the available recording space increases accordingly. Erasing a title from a Video mode DVD-RW disc increases the available recording time only if it is the last title on the disc.

Erasing Play List titles, or titles from a DVD-R, VR mode or Video mode, will not result in any more free space on the disc.

- 1 Highlight the title you want to erase.
- 2 Select 'Erase' from the command menu panel.
- 3 Select 'Yes' to confirm or 'No' to cancel, then press **ENTER**.



Tip

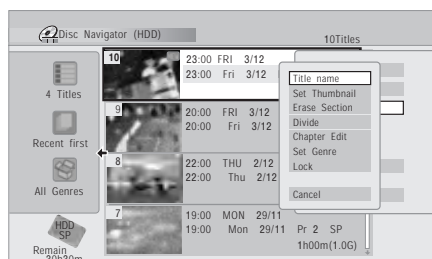
- You can erase a title quickly by pressing **CLEAR** when the title is highlighted. Confirm the edit by pressing **ENTER**.

Title Name

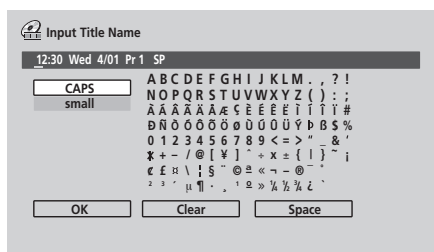
HDD **Video mode** **VR mode**

You can give titles new names of up to 64 characters long for VR mode and HDD recordings, and up to 40 characters for Video mode recordings.

- 1 Highlight the title you want to name (or rename).
- 2 Select 'Edit' > 'Title Name' from the command menu panel.



3 Input a name for the selected title.



- Use the **↑/↓/←/→** and **ENTER** to select characters.
- A name generated automatically by the recorder will already be in the name input section of the screen. Use the **◀◀/▶▶** buttons to change the cursor position.
- Select **CAPS** or **small** to change to upper or lower-case, or use the **CASE SELECTION** buttons (**◀◀/▶▶**).
- You can also use the **CLEAR** button to delete characters directly (press and hold for two seconds to delete the whole name). For other remote control key shortcuts, see *Using the remote key shortcuts to input a name* below.
- For discs formatted on a different DVD recorder, you will see only a limited character set.

4 Highlight 'OK' then press ENTER to enter the name and return to the main Disc Navigator screen.

- To return to the main Disc Navigator screen without saving changes to the title name, press **RETURN**.

Using the remote key shortcuts to input a name

The table below shows the remote control key shortcuts that you can use to input characters in the name input screen. Pressing a button repeatedly cycles through the characters shown.

If you want to enter two characters in succession that are both on the same button (for example a **P** and an **R**), press **▶▶** to advance the cursor one space manually between inputting the two characters.

Key	Characters	Key	Characters
1	, ' ? ! - & 1	6	m n o 6 ö ô õ ö ø ñ
2	a b c 2 ä å ä å ã æ ç	7	p q r s 7 \$ ÿ/ß * ¹
3	d e f 3 è é ê ê	8	t u v 8 ü û û ú
4	g h i 4 î ï î ï	9	w x y z 9
5	j k l 5 £	0	0
◀◀	[cursor back]	▶▶	[cursor forward]
◀◀/ ▶▶	[change case]	CLEAR	[clear character]
	<space>	■	[finish name input]
+	~ () _ / : ; " ' ^ @ # * % ¥ + = { } [] < >		

*1 lower-case: ÿ; upper-case: ß

Set Thumbnail

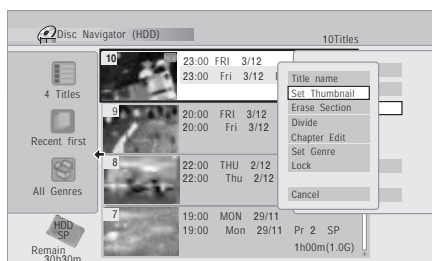
HDD **Video mode** **VR mode**

You can change the thumbnail picture that appears in the Disc Navigator for a title to any frame that appears in that title.

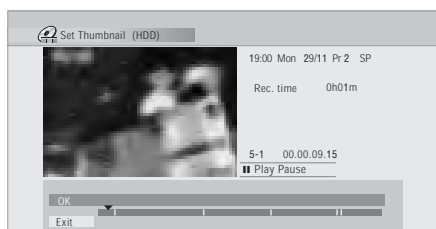
1 Highlight the title you want to change the thumbnail picture for.

2 Select 'Edit' > 'Set Thumbnail' from the command menu panel.

The thumbnail setting screen appears from which you can find the frame you want.



- 3 Use the playback controls (►, II, ◀◀, ▶▶, etc.) to find a suitable frame, then press ENTER to set.



You can also use the chapter and time search features (press **PLAY MODE**), and the **CM SKIP** buttons.

- 4 Select 'Exit' to return to the Edit screen.

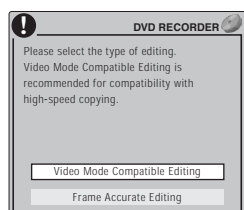
Erase Section

HDD

VR mode

Using this command you can delete a part of a title, ideal for cutting out the commercial breaks in a recording made from the TV.

- 1 Highlight the title containing the section you want to erase.
- 2 Select 'Edit' > 'Erase Section' from the command menu panel.
- 3 *HDD only:* Select the type of edit.



- **Video Mode Compatible Editing** – Edit points cannot be set with absolute precision, but high-speed copying to Video mode DVD will be possible.
- **Frame Accurate Editing** – Exact edit points are preserved, but high-speed copying to Video mode DVD will not be possible.
- For more information about these options, see *Editing accuracy* on page 91.

- 4 Highlight 'From' then use the playback controls (►, II, ◀◀, ▶▶, etc.) to find the start of the section to erase, then press ENTER.

The bar at the bottom of the screen indicates the current play position in the title. After pressing **ENTER**, a marker shows the start of the section.



- 5 Highlight 'To' then, in the same way, find the end of the section to erase, then press ENTER.

After pressing **ENTER**, another marker indicates the end of the section, with the section itself marked in red.

- 6 Select 'Yes' to confirm, or 'No' to cancel, then press ENTER.

In the thumbnail viewer you can see a few seconds of video either side of the marked section to see how the edit will look.

- When editing VR mode Original content, you may not be able to erase very short sections (less than five seconds).

Divide

HDD

VR mode

Play List only

Use this command to divide a title into two. Note that once divided, the two new HDD titles cannot be recombined into one again.

- 1 Highlight the title you want to divide.
- 2 Select 'Edit' > 'Divide' from the command menu panel.
- 3 *HDD only:* Select the type of edit.



- **Video Mode Compatible Editing** – Edit points cannot be set with absolute precision, but high-speed copying to Video mode DVD will be possible.

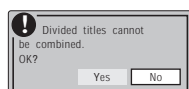
- **Frame Accurate Editing** – Exact edit points are preserved, but high-speed copying to Video mode DVD will not be possible.
- For more information about these options, see *Editing accuracy* on page 91.

4 Use the playback controls (▶, II, ◀◀, ▶▶, etc.) to find the place you want to divide the title.



5 Press ENTER to divide the title at the current playback position.

6 Select 'Yes' to confirm you want to divide the title, or 'No' to cancel.



Chapter Edit

HDD

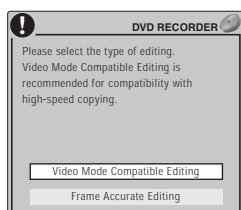
VR mode

When editing a VR mode DVD or video on the HDD you can edit individual chapters within a title, with commands for erasing, combining and dividing.

1 Highlight the title that contains the chapters you want to edit.

2 Select 'Edit' > 'Chapter Edit' from the command menu panel.

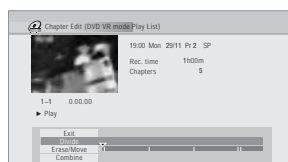
3 *HDD only:* Select the type of edit.



- **Video Mode Compatible Editing** – Edit points cannot be set with absolute precision, but high-speed copying to Video mode DVD will be possible.
- **Frame Accurate Editing** – Exact edit points are preserved, but high-speed copying to Video mode DVD will not be possible.
- For more information about these options, see *Editing accuracy* on page 91.

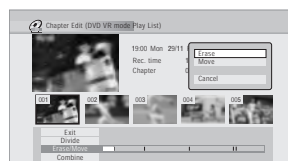
4 Select the command you want:

- **Divide** – Divide a chapter into two or more parts: Use the playback controls (▶, II, ◀◀, ▶▶, etc.) to find the point at which you want to divide the chapter, then press ENTER.



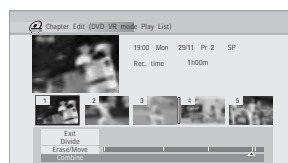
You can keep dividing the chapter as many times as you wish (up to 999 chapters per DVD disc or 99 chapters per HDD title).

- **Erase¹/Move²** – Erase or move chapters: Select the chapter you want to erase/move and press ENTER. Select whether you want to erase or move the chapter.



Move command only: Select the destination for the chapter, and press ENTER.

- **Combine³** – Combine two adjacent chapters into one: Highlight the bar divider between two adjacent chapters and press ENTER.



5 Select 'Exit' to get back to the main Disc Navigator screen.

Note

1. When editing VR mode Original content, it may not be possible to erase chapters less than five seconds long.

2. VR mode Play List only.

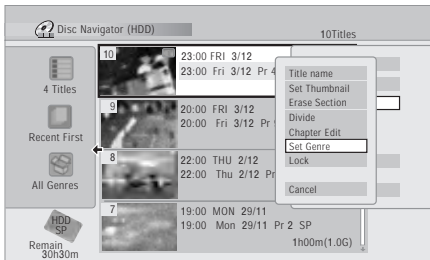
3. It may not always be possible to combine two chapters, even though they are adjacent. If a chapter has been divided into three, then the middle chapter erased, it is not possible to combine the two remaining chapters into one.

Set Genre

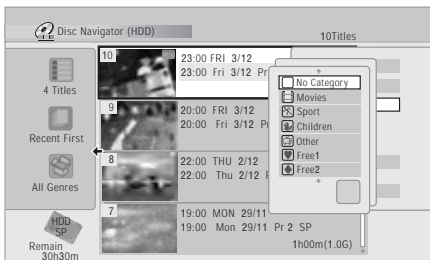
HDD

Use this command to assign a genre to a title.

- 1 Highlight the title you want to assign a genre to.
- 2 Select 'Edit' > 'Set Genre' from the command menu panel.



- 3 Use the ↑/↓ buttons to select a genre for the title, then press ENTER.



Lock

HDD

Video mode **VR mode** *Original only*

You can lock a title so that it can't be edited or erased accidentally. If you do need to edit it, you can always unlock it later.

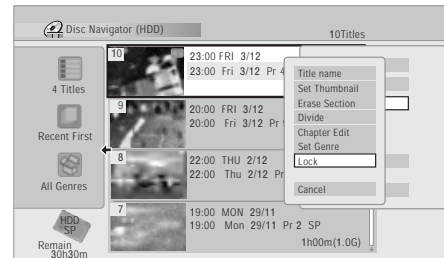


Important

- You can't undo any edits made before changing the lock status. You also can't undo a lock/unlock command using the **Undo** option from the Disc Navigator menu.

- 1 Highlight the title you want to lock (or unlock).

- 2 Select 'Edit' > 'Lock' from the command menu panel.



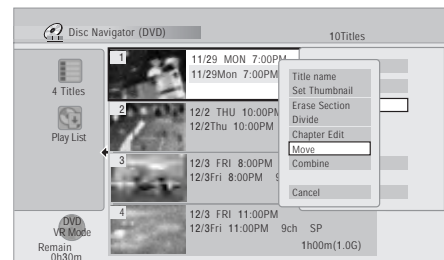
An unlocked title will become locked; a locked title will be unlocked. Locked titles are shown in the Disc Navigator with a padlock icon.

Move

VR mode *Play List only*

Use this function to re-arrange the playing order of Play List titles.

- 1 Highlight the title you want to move.
- 2 Select 'Edit' > 'Move' from the command menu panel.



- 3 Select a new position in the Play List for the title, then press ENTER.



After pressing **ENTER**, the new, updated Play List is displayed.

Combine

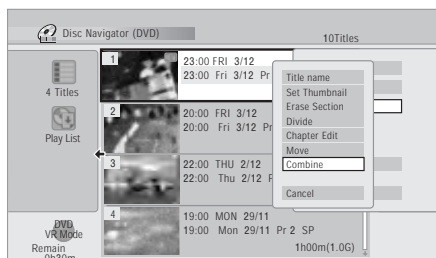
VR mode *Play List only*

Use this function to combine two Play List titles into one.

1 Highlight the title you want to combine.

This title will remain in the same place after combining with another title.

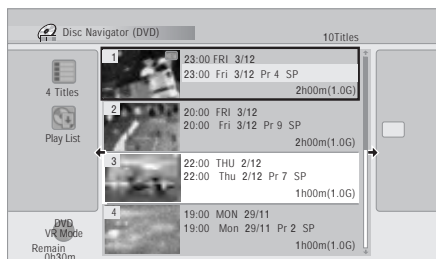
2 Select 'Edit' > 'Combine' from the command menu panel.



3 Select another title to combine with the first.

This title will be appended to the first title selected.

After pressing **ENTER**, the new, updated Play List is displayed.



Genre Name

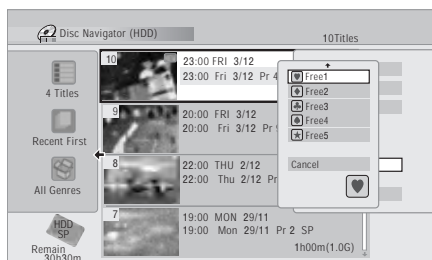
HDD

Use this command to rename one of the five user-definable genres (**Free 1-5**).

1 Select 'Genre Name' from the command menu panel.

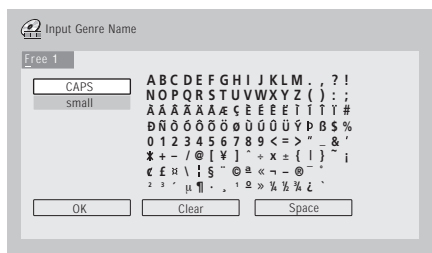


2 Use the ↑/↓ buttons to select one of the user-definable genre names, then press ENTER.



3 Input a name for the genre.

- The name can be up to 12 characters long.
- For information on remote control key short cuts, see *Using the remote key shortcuts to input a name on page 93*.



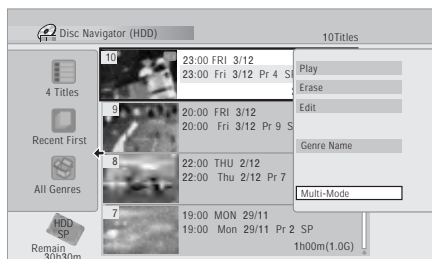
4 To finish entering the name, highlight 'OK' and press ENTER.

Multi-Mode

HDD

Multi-Mode allows you to select several titles, then select a command that will be applied to all of them. In this way you can select multiple titles and then erase them all at once, for example.

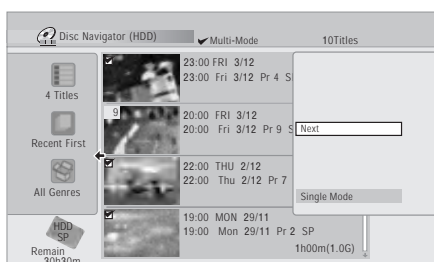
1 Select 'Multi-Mode' from the command menu panel.



2 Select titles from the title list.

Use the ↑/↓ and **ENTER** buttons to select. Selected titles are marked with a ☒.

3 Select 'Next' from the command menu panel.



4 Select the command that you want applied to all the marked titles.

For example, select **Erase** to erase all the marked titles.



Once the command is completed, Multi-Mode is automatically exited.

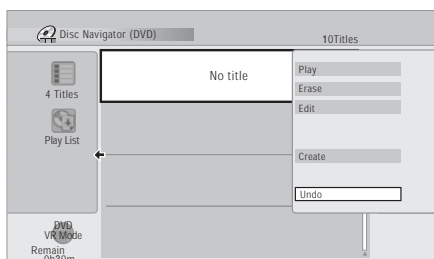
Undo

Video mode **VR mode**

If you make a mistake while editing, you can generally undo it. There are three levels of undo (in other words, you can undo the last three edits you made).

1 Select 'Undo' from the command menu panel.

- You can't undo anything after exiting the Disc Navigator screen.



Frequently asked questions

- Why doesn't the available recording time increase when I erase titles from a VR mode DVD-R?*

When you erase titles from a DVD-R, the titles are no longer displayed, but the content remains on the disc. DVD-R is a write-once medium; it can't be erased or rewritten.

- I can't edit my disc!*

You may find that as the available recording time is reduced on a VR mode DVD-R disc, editing is no longer possible. This is because information about your edits requires a certain amount of disc space. As you edit, this information builds up, eventually preventing you from editing further.

Chapter 12

Using the Jukebox

The Jukebox feature allows you to use the recorder's HDD to store and playback music from up to 999 of your CDs. Once on the HDD, you can name albums, assign them a genre, and set tracks that you don't want to play to Jump.

Copying CDs to the HDD

The first step is to copy some CDs to your HDD. This is done in real-time. All tracks are copied from each CD¹ as an album. Although album and track names are not copied, you can add these later (see *Editing Jukebox albums* on page 100).

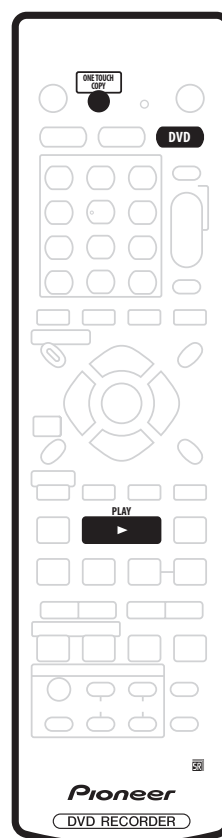
Usually, the tracks are copied to the HDD in the order they appear on the CD. If you want to copy them in some other order, set the CD to play in program play mode. See *Program play* on page 67 for how to do this.

Note that once copied to the HDD, audio tracks cannot be recorded back to a DVD-R/RW disc.



Important

- During copying, no other recorder operation is possible.
- Scheduled timer recordings will not start until copying is complete.
- Copy protected CDs may not copy successfully.



1 Press DVD.

2 Load the CD you want to copy to the HDD.

If you want to copy the CD with a different track order, set the program play mode here.

3 Press ► PLAY to starts CD playback.

4 Press ONE TOUCH COPY.

Alternatively, you can select **DVD/CD → HDD** from the Copy submenu of the Home Menu.

The CD can be playing or stopped when you press **ONE TOUCH COPY**. If the CD is playing, playback (and copying) will start from the beginning of the CD.

Note

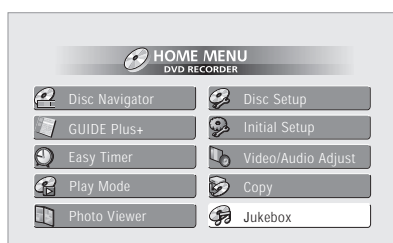
1. The recorder can copy up to 999 CDs; a CD can contain up to 99 tracks. The recorded audio format is 256 kbps Dolby Digital.

Playing music from the Jukebox

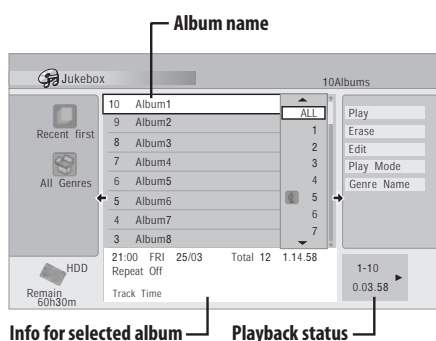
You can select albums or individual tracks from the Jukebox to play.¹

1 Press Home Menu and select 'Jukebox'.

The album list is displayed.



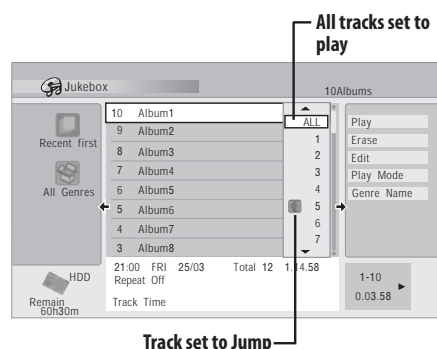
2 Use the ↑/↓ buttons to select the album you want to play and press ENTER.



- The album always plays from the first track. Once all tracks on the selected album have played, the next album in the list will play (excluding tracks that have been set to Jump—see *Editing Jukebox albums* on page 100).

Selecting a track from an album to play

1 Use the ↑/↓ buttons to select the album containing the track you want to play, then press →.



2 Use the ↑/↓ buttons to select the track you want to play and press ENTER.

- You can play tracks that are set to Jump like this (after the track has played, the next track that doesn't have Jump set will be played).

Editing Jukebox albums

A number of commands are available for editing and changing the playback behaviour of albums.

1 Use the ↑/↓/←/→ buttons to select the album/track you want to edit.

2 Press → to display the command menu panel.

3 Use the ↑/↓ buttons to select a menu command and press ENTER.

- Erase** – Erase the selected track (if all tracks in an album are selected, the whole album is erased).
- Edit > Edit Title** – Enter a name of up to 64 characters for the album. See page *Title Name* on page 92 for how to enter names.
- Edit > Set Genre** – Set or change the genre for the album.
- Edit > Jump Set²** – Set a track to jump so that it doesn't play (choose this command again to cancel the Jump setting).
- Play Mode** – Change the playback order for albums and tracks.
- Genre Name** – Enter a name of up to 12 characters for a genre. See page *Title Name* on page 92 for how to enter names.

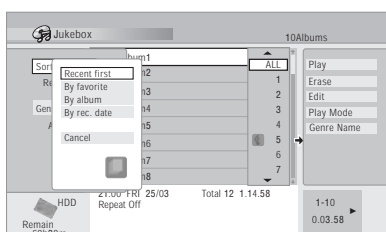
Note

¹The digital audio output contains a copy-prohibit signal when albums are playing from the HDD.

²Tracks set to Jump will be skipped during consecutive track playback.

Changing the album view

- 1 From the album list, press **←** to display the view options menu panel.
- 2 Select the view option you want, then press **ENTER**.



• Sort order

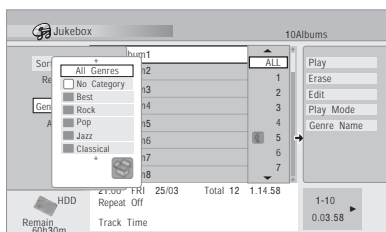
Recent First – Most recently copied CDs appear at the top of the album list.

By favorite – Most often listened to CDs appear at the top of the list.

By album – Albums are listed alphabetically.

By rec. date – Albums are listed by the recording date (oldest first).

• Genre



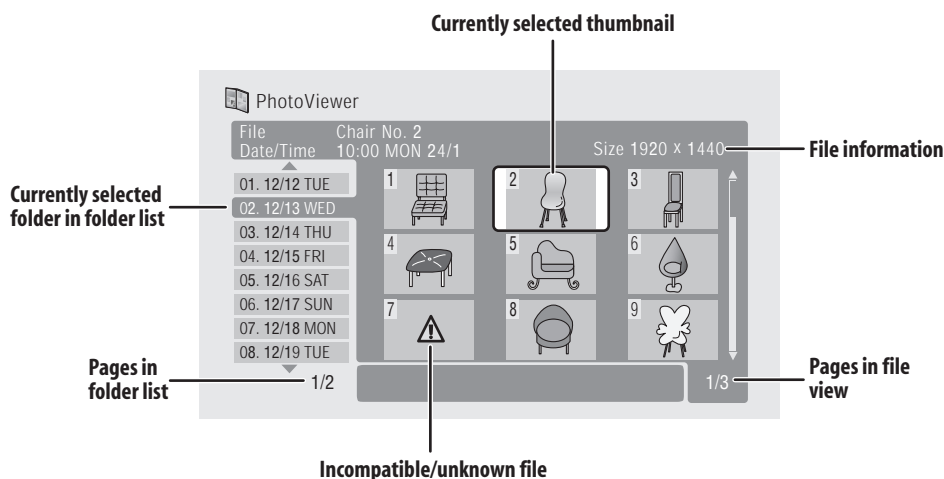
All Genres – All albums are displayed.

Genre – Only albums in the selected genre are displayed.

Chapter 13

The PhotoViewer

From the PhotoViewer you can view JPEG photos and picture files stored on a CD-ROM/R/RW¹ on your TV.



Playing a slideshow

1 Press HOME MENU and select 'PhotoViewer' to display the PhotoViewer screen.

- The PhotoViewer is only accessible when a disc containing JPEG files is loaded.
- If you encounter a disc that will not play, check that the disc and file formats are compatible with this recorder (see *JPEG file compatibility* and *PC-created disc compatibility* on page 11).

2 Use the ↑/↓ buttons to select a folder from the folder list.

The first nine images from the selected folder are displayed as thumbnails in the main part of the screen.

- The larger the file size, the longer it takes the recorder to load the file.

3 Press ENTER or → to move to the thumbnail view area.

The first thumbnail image is highlighted.

- To get back to the folder list, press **RETURN** (or ← when the leftmost thumbnail is highlighted).

4 Use the ↑/↓/←/→ to select a thumbnail.

- Use the ◀◀ and ▶▶ buttons to display the previous/next page of thumbnails.

5 Press ENTER or ► PLAY to start playing a slideshow from the selected thumbnail.

- Use the ◀◀ **PREV** / **NEXT** ▶▶ buttons to display the previous/next picture, or the || **PAUSE** button to pause the slideshow.
- Depending on the aspect ratio, some pictures may be displayed with black bars top and bottom, or left and right.
- Large picture files may take a few seconds to display. This is normal.

6 Press ■ STOP or RETURN to return to the thumbnail view area.

7 To return to the folder view area, press RETURN (or ← when the leftmost thumbnail is highlighted).

- To exit the PhotoViewer, press **HOME MENU**.

Note

1. Up to 999 files or 99 folders are viewable, but if there are more files/folders than this on the disc it is still possible to view them all using the Reload function (see the following page).

Reloading files from a disc

If you have a disc with a large number of files and/or folders, you can still view all the images using the reload function.

1 Use the ↓ button to navigate to the last entry in the folder list ('Read next: ...').

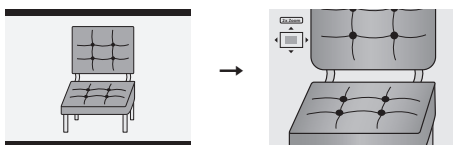
2 Press ENTER to load the next batch of up to 999 files/99 folders from the disc.

It will take a moment (at most a minute) to load in the images.¹

Zooming the image

During a slideshow you can zoom in to enlarge a portion of the picture by a factor of two or four. You can also move the area of the picture displayed.

1 During a slideshow, use the CHANNEL + button to zoom the picture.



Repeated presses cycle between zoom off, 2x zoom and 4x zoom. The zoom factor is displayed on-screen.

2 Use the ↑/↓/←/→ to move the zoomed area within the picture.

Rotating an image

You can rotate the displayed picture during a slideshow so you can always view pictures the right way up, whichever way they were taken.

• **During a slideshow, press ANGLE to rotate the displayed picture clockwise by 90°.**

Press **ANGLE** repeatedly to continue rotating the picture in increments of 90°.



Note

¹. You can press **HOME MENU** to exit the PhotoViewer screen while the recorder is reloading images. (If you enter the PhotoViewer again, it will resume reloading.)

Chapter 14

The Disc Setup menu

Introduction

From the Disc Setup menu you can name discs, lock the contents to prevent accidental recording and erasure, initialize and finalize discs. The Disc Setup menu is accessed from the Home menu:

- Press **HOME MENU** and select 'Disc Setup'.

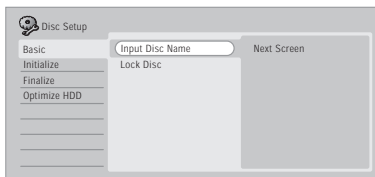
Basic settings

Input Disc Name

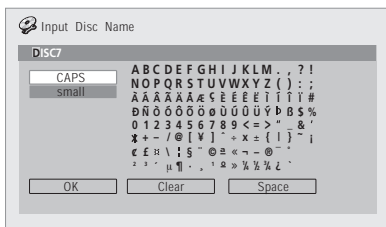
VR mode **Video mode**

When you initialize a disc for recording, the recorder automatically assigns a name for the disc ranging from **DISC 1** to **DISC 99**. You can use the Input Disc Name function¹ to change the default disc name to something more descriptive. This name appears when you load the disc and when you display disc information on-screen.

- 1 Select 'Input Disc Name' from the Basic options, then 'Next Screen'.



- 2 Input a name for the disc up to 64 characters long for a VR mode disc, or 40 for a Video mode disc.



- Use the **↑/↓/←/→** and **ENTER** to select characters.

Note

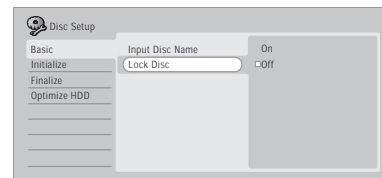
1. You cannot input a name for a disc if the TV line system of the disc is different to the current setting of the recorder. See *Additional information about the TV system settings* on page 116 for how to change the recorder's setting.
2. You cannot change the lock setting for a disc if the TV line system of the disc is different to the current setting of the recorder. See *Additional information about the TV system settings* on page 116 for how to change the recorder's setting.

- Use the **◀◀/▶▶** buttons to change the cursor position.
- Select **CAPS** or **small** to change to upper or lower-case, or use the **CASE SELECTION** buttons (**I◀◀/▶▶I**).
- You can also use the **CLEAR** button to delete characters directly (press and hold for two seconds to delete the whole name). For other remote control key shortcuts, see *Using the remote key shortcuts to input a name* on page 93.
- For discs formatted on a different DVD recorder, you will see only a limited character set.

Lock Disc

VR mode

- Default setting: **Off**



Set to **On** to prevent accidental recording, editing or erasing of the disc loaded². If you need to unlock the disc to make edits, select **Off**.



Important

- A locked disc can still be initialized (which will completely erase the disc).

Initialize settings

DVD-R

DVD-RW

You can initialize a recordable DVD disc for either VR mode or Video mode recording.

The first time you load a new DVD-RW disc, it will be automatically initialized for recording according to the DVD-RW Auto Init. setting in the Initial Setup menu (see page 114).

New DVD-R discs are ready for Video mode recording when you load them, but it is also possible to initialize them for VR mode recording.

The initialize menu here lets you reinitialize a disc, for example if you want to change the recording format of the disc. See *Initializing a recordable DVD disc* on page 60 for detailed instructions.

Finalize settings¹

Finalize

DVD-R

DVD-RW

Finalizing 'fixes' the recordings in place so that the disc can be played on a regular DVD player or computer equipped with a suitable DVD-ROM drive.

See *Playing your recordings on other DVD players* on page 58 for detailed instructions.

Undo Finalize

DVD-RW

You can undo the finalization on DVD-RW discs recorded on this recorder in Video mode. You need to do this if you want to record more material or edit material already on the disc.

You can also undo the finalization of VR mode discs which have been finalized on other DVD recorders. If when you load a disc the message **This disc cannot be recorded. Undo the finalization** is displayed, use this command to be able to record on the disc using this recorder.

1 From the Disc Setup menu, select 'Finalize', then 'Undo Finalize' from the finalize options.

2 Select 'Start'.

Optimize HDD

HDD

You'll see a message appear on-screen recommending you optimize the HDD.

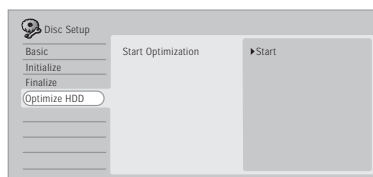
As you record, erase and edit recordings, the HDD file system gradually becomes fragmented. Periodically, the HDD will need optimizing to 'clean up' all the fragmented files.



Important

- Optimizing the HDD can take as long as eight hours. During optimization, playback and recording are not possible.
- Canceling optimization mid-way does not undo the optimization already done, so the HDD will be partly optimized.

1 Select 'Optimize HDD' from the Disc Setup menu.



2 Select 'Start' to optimize.

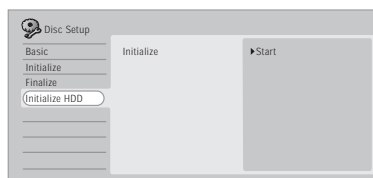
A progress bar indicates how long there is left to go.

Initialize HDD

HDD

When your DVD recorder is working without a problem this option is not visible in the Disc Setup menu. However, if the HDD file system becomes corrupted for some reason, you initialize the HDD to fix the problem. Note that initializing the HDD will erase all the data on it.

1 Select 'Initialize HDD' from the Disc Setup menu.



2 Select 'Start' to initialize.



Note

1. You cannot finalize a disc or use the Undo Finalize command if the TV line system of the disc is different to the current setting of the recorder. See *Additional information about the TV system settings* on page 116 for how to change the recorder's setting.

Chapter 15

The Video/Audio Adjust menu

Using the Video/Audio Adjust menu you can set up the picture quality for the built-in tuner and external inputs, for disc playback, and for recording.

Setting the picture quality for HDD/DVD recording sources

The Picture Creation feature lets you assign a set of picture quality settings for the built-in TV tuner, each external input, and the built-in VCR. These settings will affect the recorded picture when recording to HDD and DVD, but *not* when recording to VHS.

There are three preset settings suitable for general TV broadcasts, VHS tape and Laserdiscs, but you can also define your own set and store it to one of the three user memories.

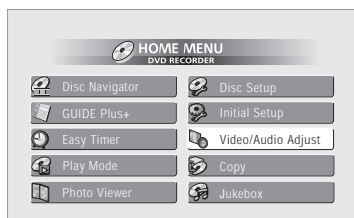


Tip

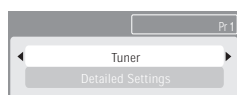
- Before copying a VHS tape to HDD or DVD, you can optimize the recorded picture quality by adjusting the picture quality settings for the VHS input while playing the tape.

Choosing a preset

- 1 With the recorder stopped, press **HOME MENU** and select 'Video/Audio Adjust'.



- 2 Select 'Video Adjust'.
- 3 Use the **←/→** buttons to change the preset.



- Use the **INPUT SELECT** button to switch between the built-in TV tuner (channel preset), each external input (**AV2/L1** or **L2**), and the built-in VCR (**VHS**).
- Use the **CH +/-** buttons to change the channel of the built-in TV tuner.

There are six presets available:

- **Tuner** – suitable for general TV broadcasts
- **VCR** – suitable for video cassettes
- **LDP** – suitable for Laserdiscs
- **Memory1** – user memory 1
- **Memory2** – user memory 2
- **Memory3** – user memory 3

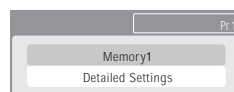
You can press **DISPLAY** to see the individual settings for the current preset (**Tuner**, **VCR** or **LDP**).

- 4 Press **ENTER** to select the preset.

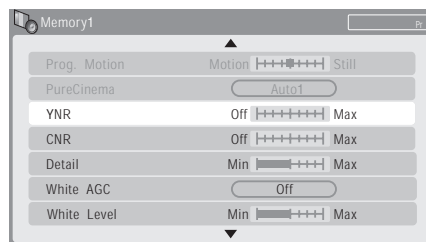
Creating your own set

There are three user presets in which you can save your own set of picture quality settings.

- 1 Follow *Choosing a preset* above and select one of the user presets (**Memory 1, 2 or 3**).
- 2 Select 'Detailed Settings'.



- 3 Use the **↑/↓** buttons to select the picture quality setting you want to adjust.



You can adjust the following settings:

- **Prog. Motion** – Adjusts the motion and still picture quality when video output is set to progressive (component video output only).
- **PureCinema** – This setting optimizes the picture for film material when the video output is set to progressive (component video output only). Usually this is best left set to **Auto**; try switching to **Off** if the picture appears unnatural.
- **YNR** – Adjusts the amount of noise reduction (NR) applied to the Y (brightness) component.
- **CNR** – Adjusts the amount of noise reduction (NR) applied to the C (colour) component.
- **Detail** – Adjusts how sharp edges appear.
- **White AGC** – Turn on for automatic white level adjustment.¹
- **White Level** – Adjusts the intensity of white.
- **Black Level** – Adjusts the intensity of black.
- **Black Setup** – Corrects the standard reference black level (NTSC video input only).
- **Gamma Correction** – Adjusts the brightness of darker images.
- **Hue** – Adjusts overall balance between red and green.
- **Chroma Level** – Adjusts how rich the colours appear.

4 Use the **←/→** buttons to adjust the currently selected picture quality setting.

5 When you have all the settings as you want them, press **HOME MENU** to exit.

You can now use the preset for any other input or the built-in TV tuner.



Tip

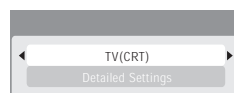
- To see more of the picture as you adjust different settings, press **ENTER** after selecting the setting you want to adjust.

Setting the picture quality for HDD/DVD playback

This setting determines how the picture will look when playing video from the HDD or from DVD. It will also affect the recorded picture when copying from HDD/DVD to VHS.

Choosing a preset

- 1 With a disc playing (or paused), press **HOME MENU** and select '**Video/Audio Adjust**'.
- 2 Select '**Video Adjust**'
- 3 Use the **←/→** buttons to change the setting.



There are six presets available:

- **TV(CRT)** – suitable for standard cathode-ray tube TVs
- **PDP** – suitable for plasma display screens
- **Professional** – suitable for professional monitors
- **Memory1** – user memory 1
- **Memory2** – user memory 2
- **Memory3** – user memory 3

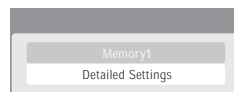
You can press **DISPLAY** to see the individual settings for the current preset (**TV(CRT)**, **PDP** or **Professional**).

4 Press **ENTER** to select the preset.

Creating your own set

There are three user presets in which you can save your own set of picture quality settings for disc playback.

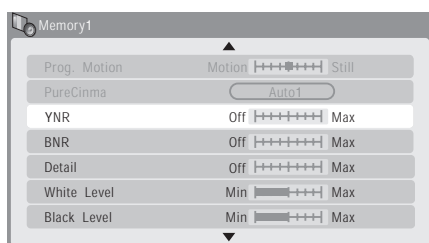
- 1 Follow *Choosing a preset* above and select one of the user presets (**Memory 1, 2 or 3**).
- 2 Move the cursor down and select '**Detailed Settings**'.



Note

1. When **White AGC** is **On**, the **White Level** setting can't be adjusted.

3 Select the picture quality setting you want to adjust.



You can adjust the following settings:

- **Prog. Motion** – Adjusts the motion and still picture quality when video output is set to progressive (component video output only).
- **PureCinema** – This setting optimizes the picture for film material when the video output is set to progressive (component video output only). Usually this is best left set to **Auto 1**; try switching to **Auto 2**, **On** or **Off** if the picture appears unnatural.
- **YNR** – Adjusts the amount of noise reduction (NR) applied to the Y (brightness) component.
- **BNR** – Adjusts the amount of noise reduction (NR) applied to the block noise (artefacts visible in areas of flat colour, caused by MPEG compression).
- **Detail** – Adjusts how sharp edges appear.
- **White Level** – Adjusts the intensity of white.
- **Black Level** – Adjusts the intensity of black.
- **Black Setup** – Corrects the standard reference black level (NTSC video playback only).
- **Gamma Correction** – Adjusts the brightness of darker images.
- **Hue** – Adjusts overall balance between red and green.
- **Chroma Level** – Adjusts how rich the colours appear.

4 Use the ◀/▶ buttons to adjust the currently selected picture quality setting.

5 When you have all the settings as you want them, press HOME MENU to exit.



Tip

- To see more of the picture as you adjust different settings, press **ENTER** after selecting the setting you want to adjust.

Audio DRC

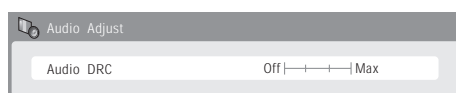
- Default setting: **Off**

When watching Dolby Digital material at low volume, it's easy to lose low level sounds completely—including some of the dialog. Switching on Audio DRC (Dynamic Range Control) can help by bringing up the low level sounds, while controlling high level peaks.

1 During playback or when paused, press HOME MENU and select 'Video/Audio Adjust'.

2 Select 'Audio Adjust'.

3 Use the ◀/▶ buttons to adjust DRC from 'Off' to 'Max'.



Exactly how much difference you can hear between the settings will depend on the material.



Tip

- Audio DRC is not effective when listening to a disc via the digital output when **Dolby Digital Out** is set to **Dolby Digital**. In this case adjust the dynamic range from your AV amplifier/receiver.

Chapter 16

The Initial Setup menu

Using the Initial Setup menu

The Initial Setup menu is where you can set various recorder options for sound, picture, language and so on.

Some settings can only be changed when the recorder is stopped. During playback and recording these settings are grayed out in the Initial Setup menu.

Except for the Setup Navigator, menu screens are exited automatically after 20 minutes of inactivity.

- **Press HOME MENU and select 'Initial Setup'.**

In the table below, the default option is marked with a •.

Setting	Options	Explanation
Basic Settings		
Clock Setting	Auto	Set the channel that broadcasts a clock signal and the clock will be set automatically.
	Manual •	If there is no channel that broadcasts a clock signal in your area, you can set the time and date manually.
<i>The clock must be set in order to use timer recording.</i>		
Input Line System	525 System	Use for NTSC or PAL-60 recording from an external input.
	625 System •	Use for standard PAL or SECAM recording.
<i>See also About the input line system (HDD/DVD only) on page 116 for more information on this setting.</i>		
Power Save	Mode 1	Only signals arriving at the antenna input are passed through to the antenna output when the recorder is in standby.
	Mode 2	No input signals are passed through to the outputs when the recorder is in standby.
	Off •	When the recorder is in standby, all signals arriving at the SCART and antenna inputs are passed along to the outputs.
Auto Blank Cut	On •	When recording from VHS, recording is automatically paused during sections of blank tape.
	Off	When recording from VHS, everything (including blank sections) is recorded.
Indexed Copy	Title •	A new title is started on every program index (VISS signal) on the VHS tape.
	Chapter	A new chapter is started on every program index (VISS signal) on the VHS tape. This works for VR mode copying only.
	No Division	Do nothing when a program index marker (VISS signal) appears on the VHS tape.

See also Copying with VHS index markers on page 86 for more information on this setting.

Setting	Options	Explanation
Help Setting	On •	Switches on the automatic Help screens for GUI displays.
	Off	Switches off the automatic Help screens for GUI displays. (Press HELP on the remote to manually display the Help screen.)
Setup Navigator	Start	Select to start the Setup Navigator. See also <i>Switching on and setting up</i> on page 26.
Tuner Settings		
Auto Channel Setting	Auto Scan	Select your country and then wait for the recorder to auto tune into channels in your area. After auto scan has finished, the channel mapping screen appears showing which channels have been assigned to which program numbers. You can skip unwanted channels using the Manual Channel Setting option below. Press HOME MENU to exit the channel mapping screen.
	Download from TV	If your TV supports this feature you can download all the channels that your TV is tuned to via the SCART input. Select your country and then wait for the download to complete. After the download is complete, the channel mapping screen appears, as above. See also the operating instructions that came with your TV for more information.
Manual CH Setting	Next Screen	Proceed to the next screen if you need to adjust any of the settings made by auto tuning. Select your country, then proceed to the manual channel setting screen: <ul style="list-style-type: none"> • Change channel presets using the CH +/- buttons. • To skip the displayed channel (because there is no station assigned to that channel), change the Skip setting to On. • Set the CH SYSTEM setting to match the channel system of your country or region. • Set the CHANNEL setting to the channel you want to assign to the current channel preset. • To manually fine tune the channel, change the AFT setting to Off then adjust the Level setting. • Set the Sound System setting to match the sound system of your region. • The Name field allows you to input a name of up to five characters for the current channel preset. • If the currently selected channel is scrambled requiring a decoder connected to the AV2 (INPUT 1/DECODER), set the Decoder setting to On.
Channel Swapping	Next Screen	Proceed to the next screen to swap channel assignments of different presets so that you can group together presets that naturally go together. Select two presets to swap then press ENTER .
Video In/Out Settings		
Component Video Out	Interlace •	Select if your monitor/TV is not compatible with progressive-scan video.
	Progressive	Select if your monitor/TV is progressive-scan compatible. Check the operating instructions that came with your monitor/TV if you're not sure.

For Component Video Out to be effective, the AV1 Out setting (see page 111) must be set to something other than **RGB**.

Setting	Options	Explanation
Input Colour System	Next Screen	Proceed to the next screen to set the input colour system for each channel preset. Use the CH +/- buttons to change the preset. On the default Auto setting the recorder can generally correctly detect whether the input signal is PAL, SECAM, 3.58 NTSC or PAL-60, but in some cases you may have to set it manually if the picture is displayed incorrectly.

See also About the input colour system on page 116 for more information on this setting.

AV1 Out	Video •	Sets the AV1(RGB)-TV SCART output to standard composite video (compatible with all TVs).
	RGB	Sets the AV1(RGB)-TV SCART output to RGB. Good quality but check your TV for compatibility.

If you choose a setting that is incompatible with your TV you may not be able to see any picture at all. In this case either switch off and reconnect using the supplied video cable, or reset the recorder (see Resetting the recorder on page 118).

For VHS video playback, AV1 Out must be set to **Video** (some TVs will automatically switch the recorder to **Video** when VHS is selected).

The Component Video Out setting (see page 110) has no effect when AV1 Out is set to **RGB**.

AV2/L1 In	Video •	Sets the AV2 (INPUT 1/DECODER) SCART input to standard composite video.
	S-Video	Sets the AV2 (INPUT 1/DECODER) SCART input to S-video.
	RGB	Sets the AV2 (INPUT 1/DECODER) SCART input to RGB.
	Decoder	Use this setting if you connected a decoder to the AV2 (INPUT 1/DECODER) SCART connector. For scrambled channels, make sure that the channel Decoder setting is set to On . (See Manual CH Setting page 110.)

For VHS video recording, AV2/L1 In must be set to **Video** or **S-Video**.

NTSC on PAL TV	On •	NTSC discs will play correctly on PAL-only TVs.
	Off	Use if your TV is already NTSC-compatible.

Many recent PAL TVs are compatible with NTSC input and so this setting can be switched off. Check the operating instructions that came with your TV. See also About NTSC on PAL TV on page 116 for related information.

Audio In Settings

Nicam Select	NICAM •	Record the NICAM audio in a NICAM broadcast.
	Regular Audio	Record the non-NICAM audio in a NICAM broadcast. (You can still switch the audio to record using the AUDIO button before recording.)
Tuner Level	Normal •	Standard setting.
	Compression	Use if the audio level from the built-in tuner is excessive, causing distortion.
External Audio	Stereo •	Select if the audio from the currently selected external input is standard stereo.
	Bilingual	Select if each channel carries a separate soundtrack.
Bilingual Recording	A/L •	Record the left (A) channel of a bilingual source when recording to HDD with HDD Recording Format set to Video Mode ON, to DVD in Video mode or in LPCM mode, from an external source.
	B/R	As above, but for right (B) channel recording.

Setting	Options	Explanation
<p><i>When recording bilingual audio to DVD in VR mode (except in LPCM mode), or to HDD with HDD Recording Format set to Video Mode Off (except in LPCM mode), both audio channels are recorded and you can switch to the one you want on playback.</i></p>		
VHS Copy Audio	Stereo •	The soundtrack is recorded in stereo.
	Bilingual	The bilingual soundtrack is recorded on separate audio channels (when recording to DVD-R/-RW (Video) the soundtrack is recorded according to the setting made in <i>Bilingual Recording</i> on page 111)
<p><i>When recording a source with a bilingual soundtrack from another component, make sure to select Bilingual, and not Stereo (if not you will hear two languages simultaneously on your recording).</i> <i>When recording from another component with a Bilingual setting (and it is switched on), you must also set the Bilingual Recording Setting on page 111.</i></p>		
Input Level (L1–L2)	-6dB – +6dB (default: 0 dB)	Adjust the input level separately for each of the external inputs from -6dB to +6dB in steps of 3dB.
VHS Audio Level	-6dB – +6dB (default: 0 dB)	Adjust the input level of the VHS source audio from -6dB to +6dB in steps of 3dB.
Audio Out Settings		
Digital Out	On •	Activates the digital audio output.
	Off	Deactivates the digital audio output.
<p><i>When set to Off, all the following Audio Out settings are grayed out.</i></p>		
Dolby Digital Out	Dolby Digital •	Output a Dolby Digital signal when a Dolby Digital source is being played.
	Dolby Digital → PCM	Convert Dolby Digital sources to Linear PCM output. Use if your connected equipment doesn't have a Dolby Digital decoder.
DTS Out	On •	Output a DTS signal when a DTS source is being played.
	Off	Switch off the digital output when a DTS source is being played. Use when your connected equipment doesn't have a DTS decoder. In this case, use the analog audio outputs.
96 kHz PCM Out	96 kHz → 48 kHz •	Convert 96 kHz digital audio sources to 48 kHz output. Use if your connected equipment doesn't support 96 kHz sampling rate.
	96 kHz	Output 96 kHz digital audio when a 96 kHz source is being played.
MPEG Out	MPEG	Output an MPEG audio signal when a source using MPEG audio is being played.
	MPEG → PCM •	Convert sources with MPEG audio to Linear PCM output. Use if your connected equipment doesn't have an MPEG audio decoder.
Language Settings		
OSD Language	English •	Sets the language of the on-screen displays to English.
	available languages	Choose from the languages displayed for the on-screen displays.
Audio Language	English •	Sets the default audio language for DVD-Video playback to English.
	available languages	Choose from the languages displayed to set the default audio language for DVD-Video playback.
	Other	Select to set the default audio language to something other than the ones listed. See <i>Selecting other languages for language options</i> on page 117.

Setting	Options	Explanation
<i>Discs do not necessarily have audio in your selected language. Also, some discs override the Audio Language preference.</i>		
Subtitle Language	English •	Sets the default subtitle language for DVD-Video playback to English.
	available languages	Choose from the languages displayed to set the default subtitle language for DVD-Video playback.
	Other	Select to set the default subtitle language to something other than the ones listed. See <i>Selecting other languages for language options</i> on page 117.

Discs do not necessarily have subtitles in your selected menu language. Also, some discs override the Subtitle Language preference.

Auto Language	On •	On this setting: <ul style="list-style-type: none"> • DVD-Video discs whose main audio track is in your default language will play using that language, without subtitles. • Discs whose main audio track is not in your default language but that have a subtitle track in your default language will play the original audio track with subtitles.
	Off	Select to play DVD-Video discs according to your audio and subtitle language preferences.

For Auto Language to be effective, the Audio Language and Subtitle Language options must be set to the same language.

DVD Menu Language	w/Subtitle Language •	Sets the language of DVD-Video menus to the same as that set for the subtitle language.
	English	Sets the language of DVD-Video menus to English.
	available languages	Choose from the displayed languages to set the default language for DVD-Video menus.
	Other	Select to set the DVD menu language to something other than the ones listed. See <i>Selecting other languages for language options</i> on page 117.

Discs do not necessarily have menus in your selected menu language.

Subtitle Display	On •	Select to have discs display subtitles according to your Subtitle Language and Auto Language preferences.
	Off	Select to switch off subtitle display.
	Assist Subtitle	Select to display special additional assistive subtitles, where available.

Some discs may override these settings.

Recording Settings		
Manual Recording	On (go to setup)	All the standard recording modes, plus MN1–32 , LPCM and XP+ modes can be set.
	Off •	Just the standard recording modes (XP , SP , LP , EP , SLP and SEP) can be set.
<i>See also Manual recording modes on page 125 for detailed information on manual recording levels.</i>		
Optimized Rec	On	The recording quality of timer recordings is automatically adjusted to fit on to the selected media if it will not fit at the selected quality setting. If the recording will not fit even at MN1 , then the recording will start at MN1 and stop when all the available space is used up.
	Off •	When a timer recording is set that won't fit on to the selected media, the recording starts but is cut off when no more recording is possible.

Setting	Options	Explanation
<i>Optimized Rec will only compensate for the next scheduled timer recording if more than one is set. It cannot be used together with VPS/PDC.</i>		
Set Thumbnail	0 seconds •	Sets the default thumbnail picture in the Disc Navigator to the first frame of the title.
	30 seconds	Sets the default thumbnail picture to 30 seconds into the title.
	3 minutes	Sets the default thumbnail picture to 3 minutes into the title.
Auto Chapter (Video)	No Separation	Automatic chapter marking is switched off.
	10 minutes •	When recording in Video mode, chapter markers are inserted every 10 minutes.
	15 minutes	Chapter markers are inserted every 15 minutes.
DVD-RW Auto Init.	VR Mode	Blank DVD-RW discs are initialized for VR mode recording when loaded into the recorder for the first time.
	Video Mode •	Blank DVD-RW discs are initialized for Video mode recording.
HDD Recording Format	Video Mode Off	Recordings made to the HDD are made in VR mode. Use this setting if you don't need to transfer the recording later to a Video mode DVD.
	Video Mode On •	Recordings made to the HDD are compatible with Video mode recordings. This setting is convenient if you want to transfer the recording to a Video mode DVD as high-speed copy can be used.
<i>When Video Mode On is used, you must select the audio channel you want to record when recording a bilingual broadcast. On the Video Mode Off setting, both channels will be recorded and you can switch between them on playback. See also Bilingual Recording on page 111.</i>		
Playback Settings		
TV Screen Size	4:3 (Letter Box) •	Select if you have a standard 4:3 TV and prefer the letter box format presentation for widescreen material.
	4:3 (Pan & Scan)	Select if you have a standard 4:3 TV and prefer the pan and scan presentation for widescreen material.
	16:9	Select if you have a widescreen 16:9 TV. Your TV settings determine how 4:3 material will look.
<i>Selecting 4:3 (Letter Box) or 4:3 (Pan & Scan) does not guarantee that all video material will be presented in that format as some discs override this setting.</i>		
Still Picture	Field	Produces a stable, generally shake-free image.
	Frame	Produces a sharper image, but more prone to shake than Field stills.
	Auto •	The recorder automatically selects Field or Frame type still, according to the material playing.
Seamless Playback	On	Playback is smooth, but with a trade-off against the accuracy of the edit points.
	Off •	You may notice momentary interruption at edited points during playback of a VR mode Play List.

Setting	Options	Explanation
Parental Lock	Set Password	In order to change the parental lock level or change the country/area code, set the password using this option. From the following screen, enter a four-digit number that will be your password.
	Change Password	In order to change the password, first enter your existing password and then a new one from the following screen.
	Change Level	From the following screen, first enter your password and then set a parental lock level.
	Country/Area Code	From the following screen, first enter your password and then set a country/area code.
<i>Only certain discs have parental lock and country code features. Check the disc packaging to see what features the disc has. If you forget your password you can reset it by resetting the recorder to its factory settings. See Resetting the recorder on page 118.</i>		
Angle Indicator	On •	A camera icon appears on-screen during multi-angle scenes on a DVD-Video disc.
	Off	Nothing is indicated on-screen when a multi-angle scene is showing.
Options		
On-Screen Display	On •	The recorder displays operation displays (Stop , Play , etc.) on-screen.
	Off	Switches off the on-screen operation displays.
Front Panel Display	On •	The time is shown in the front panel display when the recorder is in standby.
	Off	The front panel display is switched off in standby (although it still lights dimly when setting a timer recording).
Remote Control Mode	Recorder 1–3 (default: Recorder 1)	If you are using more than one recorder in the same room, set them to different IDs. This setting sets the recorder ID; to change the remote controller ID, press and hold RETURN then press 1 , 2 or 3 to set. The remote will only control a recorder with the same ID.
AV. Link	This Recorder Only •	Signals received through the AV input when the recorder is in standby are not passed through to the AV output.
	Pass Through	Signals received when in standby are passed through to the output for connected devices. (Note that during EPG data download, the EPG data is not passed through.)

When set to **Pass Through**, make sure to set Power Save (page 109) to **Off**.

Additional information about the TV system settings

About the input line system (HDD/DVD only)

This recorder is compatible with PAL, SECAM, 3.58 NTSC and PAL-60 TV systems. The Input Line System and Input Colour System settings determine how the recorder treats incoming video signals from an external input or the built-in TV tuner.

Please note the following points when changing the input line system:

- When the current input is a built-in tuner channel preset, changing the input line system will usually also affect the input line system of the **AV2 (INPUT 1/ DECODER)** input. However if the **AV2/L1 In** setting is set to **Decoder**, then the L2 input is affected instead.
- If, when the Input Line System setting is changed, the screen goes blank (due to incompatibility with your TV), you can switch back by pressing and holding the front panel **■ STOP** button then pressing **VHS EJECT** (also front panel) while the recorder is stopped.
- When you switch the Input Line System setting the Copy List is erased. If you switch the setting using the **■ STOP** button and **VHS EJECT** buttons as described above, there is no confirmation, so please use with care.
- You can't mix recordings of different TV line systems on the same disc.
- When you change this setting, the **Input Colour System** setting also changes (see below).

About NTSC on PAL TV

Depending on the Input Line System setting and the NTSC on PAL TV setting, the signal format output when the recorder is stopped varies as shown in the table below.

Input Line System	NTSC on PAL TV	Output when stopped
625 System	Off	PAL
	On	PAL
525 System	Off	NTSC
	On	PAL-60

About the input colour system

The available options of the Input Colour System setting depend on the Input Line System setting. The table below shows the different options available.

Input Line System	Built-in tuner	External input
625 System	Auto	Auto
	PAL	PAL
	SECAM	SECAM
525 System	n/a	Auto
		3.58 NTSC
		PAL-60

Colour system settings for VHS

The VHS deck cannot record NTSC, PAL-60 or MESECAM video; it can however play VHS tapes recorded with NTSC or MESECAM material (though not tapes recorded in EP mode).

The table below shows the results of recording different types of signal with different colour system settings:

Input signal	Colour system	Recorded signal
PAL 50 Hz	Auto	PAL 50 Hz
	PAL	PAL 50 Hz
	SECAM	n/a
SECAM 50 Hz	Auto	SECAM 50 Hz
	PAL	n/a
	SECAM	SECAM 50 Hz
PAL 60 Hz	n/a	n/a
NTSC 60 Hz	n/a	n/a

The following table shows the tapes that are playable with different colour system settings:

Input signal	Colour system	Recorded signal
PAL 50 Hz (VHS PAL)	Auto	PAL 50 Hz
	PAL	PAL 50 Hz
	SECAM	n/a
SECAM 50 Hz (VHS SECAM)	Auto	SECAM 50 Hz
	PAL	n/a
	SECAM	SECAM 50 Hz
MESECAM 50 Hz (VHS MESECAM)	Auto	SECAM 50 Hz
	PAL	n/a
	SECAM	n/a
NTSC 60 Hz (VHS NTSC)	Auto	PAL 60 Hz
	PAL	PAL 60 Hz
	SECAM	n/a

Additional information about component video output

If you switch the Component Video Out setting to **Progressive** when using a TV that is not compatible with progressive-scan video, you will not be able to see anything displayed on your TV. If this happens, press and hold the **■ STOP** button on the front panel, then press **► PLAY**. This will set the recorder's video output back to Interlace.

Selecting other languages for language options

1 Select 'Other' from the language list.

This option appears in the settings for DVD Menu Language, Audio Language, and Subtitle Language.

2 Select the language you want.



- Select by language name: Use the **◀/▶** buttons to change the language.
- Select by code number: Press **↓** then use the number buttons to enter the four-digit language code.

See *Language code list* on page 126 for a list of available languages and corresponding codes.

3 Press ENTER to confirm and exit the screen.

Chapter 17

Additional information

Resetting the recorder

If you need to, you can reset the recorder to all its factory settings.

- 1 **Make sure that the recorder is on.**
- 2 **Using the front panel controls, press and hold ■ STOP and press ⏻ STANDBY/ON.**
The recorder turns off with all settings reset.

Setting up the remote to control your TV

You can use the supplied remote to control your TV. To be able to use this feature you first have to program the remote with a maker code from the table below.

- 1 **Press and hold down the CLEAR button, then enter the maker code for your TV.**
The LED indicator on the remote controls lights.
See the table below for the list of maker codes. If there is more than one code given for your make, input the first one in the list.
 - If the maker's name of your TV doesn't appear in the table below, you will not be able to use this remote to control your TV.
- 2 **Press ⏻ TV to check that the remote works with your TV.**
If the remote is set up correctly, the TV should switch on/off. If it doesn't and there is another code given for your maker, repeat step 1 with a new code.

Using the TV remote control buttons







The table below shows how to use this remote control with your TV.

Button	What it does
⏻ TV	Press to switch the TV on/off (standby)
INPUT SELECT	Press to change the TV's video input
TV VOLUME	Use to adjust the TV volume
TV CHANNEL	Use to change TV channels






Maker	Code
Alba	66
Bush	76
Finlux	84
Fisher	61, 65
Fujitsu	77
Funai	67
Goldstar	79
Grandiente	87
Grundig	51, 82
Hitachi	56, 60, 83, 86
ITT	70
Mitsubishi	59
Nokia	53, 81
Panasonic	58, 72
Philips	57, 85
Pioneer	50, 80
RCA	68
Salora	71
Samsung	73, 75
Sanyo	74
Sei	78
Sharp	52
Sony	54
Tandy	69
Telefunken	64
Thomson	62
Toshiba	55
JVC	63

Screen sizes and disc formats

When viewing on a standard TV or monitor

Screen format of disc	Setting	Appearance
16:9 	4:3 (Letter Box) 	The program is shown in widescreen with black bars at the top and bottom of the screen.
	4:3 (Pan & Scan) 	The sides of the program are cropped so that the picture fills the whole screen.
4:3 	16:9 	The program appears squashed. Set to either 4:3 (Letter Box) or 4:3 (Pan & Scan) .
	4:3 (Letter Box) 4:3 (Pan & Scan) 	The program is presented correctly on either setting.

When viewing on a widescreen TV or monitor

Screen format of disc	Setting	Appearance
16:9 	16:9 	The program is presented in widescreen.
4:3 	16:9 	Your TV will determine how the picture is presented—check the manual that came with the TV for details.
		

Minimum copying times

The table below shows the minimum HDD to DVD copying time for one hour of video.

Please note that not all discs are compatible with high-speed copying.¹ Check with the disc manufacturer for compatibility.

Rec mode	DVD disc type					
	DVD-RW Ver. 1.0, 1.1 ^{*1}	DVD-R Ver. 2.0 DVD-RW Ver. 1.1/2x ^{*2}	DVD-R Ver. 2.0/4x ^{*3} DVD-RW Ver. 1.2/4x ^{*3}	DVD-RW Ver. 1.2/6x	DVD-R Ver. 2.0/8x ^{*4} DVD-R Ver. 2.1/8x ^{*4}	DVD-R Ver. 2.0/16x ^{*5} DVD-R Ver. 2.1/16x ^{*5}
SEP	6 mins.	3 mins.	1.5 mins.	1.25 mins.	1.1 mins.	1 min.
SLP	7.5 mins.	4 mins.	2 mins.	1.5 mins.	1.25 mins.	1.1 mins.
EP	10 mins.	5 mins.	2.5 mins.	2 mins.	1.5 mins.	1.25 mins.
LP	15 mins.	7.5 mins.	4 mins.	2.5 mins.	2 mins.	1.5 mins.
SP	30 mins.	15 mins.	7.5 mins.	5 mins.	4 mins.	3 mins.
XP	60 mins.	30 mins.	15 mins.	10 mins.	8 mins.	6 mins.

Note that all times in the above table are approximate.

^{*1} Compatible with single speed recording only

^{*2} Compatible with 2x speed recording

^{*3} Compatible with 4x speed recording

^{*4} Compatible with 8x speed recording

^{*5} Compatible with 12x speed recording

Note that actual copy speed varies with the part of the disc being recorded.

The table below shows 16x DVD-R and 6x DVD-RW disc brands that have been tested for high-speed writing compatibility with this recorder.

16x DVD-R ^{*1}		6x DVD-RW ^{*2}	
Maker	Manufacturer ID	Maker	Manufacturer ID
Sony	"SONY16D1"	JVC	"JVC1Victord7"
That's	"TYG03"	MCC (MKM)	"MKM01RW6x"
TDK	"TTH02"		
Maxell	"MXL RG04"		

^{*1} Compatible with 12x speed recording

^{*2} Compatible with 6x speed recording

Note

1. There may be cases where even 2x/4x/6x/8x/16x compatible discs do not copy at full speed. High speed copying is not possible when using discs initialized on another recorder.

Troubleshooting

Incorrect operation is often mistaken for trouble and malfunction. If you think there is something wrong with this component, please check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after checking the points below, ask your nearest Pioneer authorized service center or your dealer to carry out repair work.

General

Problem	Remedy
The disc is automatically ejected after closing the disc tray	<ul style="list-style-type: none"> • Check that the disc is not a DVD+R/RW, DVD-RAM or other incompatible format disc (page 8). • Check that the disc is loaded properly (aligned in disc tray and label-side up). • Take out the disc and clean it (page 128). • Check that the disc has a region code compatible with the recorder (page 131).
Cannot insert videotape	<ul style="list-style-type: none"> • Check that there is not already a VHS tape loaded. • Make sure you inserting the videotape correctly (see page 71).
No picture	<ul style="list-style-type: none"> • Check that everything is connected properly (page 13). • Check that the connected TV and/or the AV amp/receiver is set to the correct input. • The recorder may be set to progressive scan with an incompatible TV. Reset to interlace by pressing and holding the front panel ■ STOP button then pressing ▶ PLAY.
Can't play a disc	<ul style="list-style-type: none"> • Check that the disc is a compatible format disc (page 8). • Take out the disc and clean it (page 128). • Check that the disc is loaded properly (aligned in disc tray and label-side up). • There may be condensation in the recorder. Leave the recorder for an hour or so for the condensation to evaporate. • During HDD recording, you can't play discs that are recorded with a Line System different to the current recorder setting.
Can't record a disc	<ul style="list-style-type: none"> • Check that the disc is not a DVD+R/RW, DVD-RAM or other incompatible format disc (page 8).
All settings are reset	<ul style="list-style-type: none"> • If the recorder is unplugged (or there is a power failure) while the recorder is on, all the settings will be lost. • Make sure that you switch the recorder into standby before unplugging the power cord.
Remote control does not work	<ul style="list-style-type: none"> • If you connected this recorder to another Pioneer product using the CONTROL IN jack, point the remote control at the other component to use (page 13). • Set the remote control to the same ID number as the recorder (page 115). (When the batteries run down, the remote mode is automatically reset to Recorder1.) • Use the remote within its operating range (page 8). • Replace the batteries (page 8).

Problem	Remedy
No sound or sound is distorted	<ul style="list-style-type: none"> • Make sure that the amp/receiver or TV is set to the correct input and the volume turned up. • There is no sound when the picture is paused, or during scanning or slow motion play. Press ► PLAY to resume regular playback. • DTS discs can only be played if this recorder is connected to a DTS decoder or DTS compatible amp/receiver. If you have connected a suitable decoder, also make sure that the Initial Setup > Audio Out > DTS Out setting is On. • Some 96kHz discs do not output audio through the digital jack. In this case, switch the input of your amp/receiver to analog. • Check the audio cable connections (page 13). • If the sound is distorted, try cleaning the cable plugs.
The picture from the external input is distorted	<ul style="list-style-type: none"> • If the video signal from the external component is copy-protected, you cannot connect via this recorder. Connect the component directly to your TV.
The picture is distorted	<ul style="list-style-type: none"> • Change the Input Line System setting (page 116). (You can also change it by pressing the ■ STOP button and VHS EJECT on the front panel simultaneously with the recorder stopped.)
No video signal when playing a VHS videotape	<ul style="list-style-type: none"> • The S-VIDEO and COMPONENT video jacks are dedicated to HDD/DVD video output. Please use a standard video cable to connect the VIDEO OUT jack to your TV or monitor to see VHS video playback. • If you're using the AV connector, make sure the setting for AV1 Out and AV2/L1 In on page 111 is set to Video.
Screen is stretched vertically or horizontally	<ul style="list-style-type: none"> • Make sure that the TV Screen Size setting (page 114) is correct for the kind of TV you have (see also page 119). • If you have a widescreen TV, check its aspect ratio settings. • This recorder's input switches into wide mode automatically according to the input signal. When the unit connected is not compatible with VIDEO ID-1 (widescreen signalling), set the connected component to output 4:3 aspect ratio (standard) video.
Can't play a disc recorded using this recorder on another player	<ul style="list-style-type: none"> • If the disc was recorded in Video mode, make sure that it's finalized (page 59). • Some players will not play recordable DVD discs, even when recorded in Video mode and finalized. • If the disc was recorded in VR mode, the other player must be specifically RW compatible in order to play it (page 8). • Discs recorded with copy-once material cannot be played on non-CPRM compatible players (page 51).
During playback the picture is dark or distorted	<ul style="list-style-type: none"> • When a copy-protected disc is played via a VCR, the picture will not display correctly. Connect the recorder directly to your TV.
Can't control your TV using this remote control	<ul style="list-style-type: none"> • If there is more than one code listed for your make of TV, try each one in turn (page 118). • It is possible that none of the codes listed will work with your particular model of TV, even if the maker appears in the remote control code list.

Problem	Remedy
Can't record or does not record successfully	<ul style="list-style-type: none"> • Check that there is some remaining blank space on the DVD/HDD. • For a Video mode disc, check that the disc isn't already finalized. • The HDD may contain up to 999 titles; one DVD disc 99 (Original) titles and 999 chapters (VR mode), or 99 chapters (Video mode). Check that these limits have not been reached. • Check that the erase-protect tabs on your VHS tape have not been broken off. • Check that the source you are trying to record is not copy protected. • For a VR formatted disc, check that the disc isn't locked (page 104). • Check that you are recording with the same TV system (PAL, NTSC, etc.) as the disc has already been recorded in. All recordings on a disc must be in the same TV system. When recording to the HDD, it is also necessary to set the Input Line System setting to match what you want to record (page 116). • The power may have failed during recording.
Cannot insert videotape index markers	<ul style="list-style-type: none"> • If the recording time is too short, or VISS signals are too close to each other, you may not be able to insert an index marker (see page 86).
Timer program doesn't record successfully	<ul style="list-style-type: none"> • When setting the recording channel, make sure you set the recorder's built-in TV tuner, not the TV's built-in tuner. • When recording to a Video mode disc, programs that are copy-once protected cannot be recorded. Use a VR mode formatted disc for copy-once material (page 51). • Two timer programs may have overlapped, in which case only the earlier one will record completely. • You cannot set timer recording for VHS video. • The power may have failed during recording.
After briefly unplugging or after a power failure the front panel display shows '---:--'	<ul style="list-style-type: none"> • A backup battery inside the recorder keeps the clock and other settings from being reset when there is no power to the recorder. This battery should last approximately five years from factory shipping. <p>Reset the clock and other recorder settings to use the recorder again. To have the battery replaced, contact your dealer or a Pioneer Service Center.</p>
Front panel display shows 'LOCK' when a button is pressed	<ul style="list-style-type: none"> • The Child Lock is on; turn off in order to use the recorder (page 56).
Can't use One Touch Copy (HDD to DVD)	<ul style="list-style-type: none"> • Make sure that there is a recordable DVD loaded with some free space for recording and fewer than 99 titles already on the disc. Also make sure that for a Video mode disc, the disc isn't finalized. • If the title currently playing contains material that is copy-once protected, One Touch Copy will not work. • If the currently playing HDD content was recorded in XP+ mode, the One Touch Copy feature can't be used. • One Touch Copy doesn't work if the recorder is already recording to DVD.
Can't use One Touch Copy (DVD to HDD)	<ul style="list-style-type: none"> • Make sure that there is space available on the HDD and that there are fewer than 999 titles on the HDD. • One Touch Copy doesn't work if the recorder is already recording to the HDD.
The picture freezes and the front panel and remote control buttons stop working	<ul style="list-style-type: none"> • Press ■ STOP then try restarting playback. • Press the front panel ⏻ STANDBY/ON button to switch the power off, then switch back on and restart playback. If the power fails to switch off, press and hold ⏻ STANDBY/ON for 10 seconds until the power switches off.

If the unit does not operate normally due to external effects such as static electricity, disconnect the power plug from the outlet and insert again to return to normal operating conditions.

Frequently asked questions

In this section you can find answers to frequently asked questions on how to use your DVD recorder and what it can do.

- *How do I make a high-quality copy?*

We recommend that you use the high-speed copy mode. Although the copy is faster than real time, there is no loss of picture or sound quality compared to the original.

If there is not enough space on the disc to make a copy at the same picture quality as the original, we recommend that you change the recording mode to 'Optimized'. This will fit the recording on to the available space on the disc.

See also *HDD and DVD copying and back-up* on page 76.

- *Can I make a DVD copy of, say, a movie that has had the commercials edited out?*

Yes. There are two ways to do this. You can either edit the video on the HDD then copy the edited version to DVD, or you can assemble a Copy List that cuts out the commercials, then record that to DVD.

See also *HDD and DVD copying and back-up* on page 76.

- *I have a two-hour recording on the HDD made in **XP** mode. Can I copy this to DVD in high-speed mode?*

A standard DVD disc can hold only an hour of **XP** mode material, so you wouldn't be able to make a high-speed copy of this on to one disc. You could divide up the recording on the HDD into two titles of an hour each and copy these to two DVDs (using high-speed copy). Alternatively, you could copy the material in **SP** (or Optimized) mode so as to fit it all on to one disc (note that there will be a loss in picture quality if you do this).

See also *HDD and DVD copying and back-up* on page 76.

- *Can I record a bilingual broadcast to the HDD, keeping both audio channels and switch them on playback?*

Yes. When HDD Recording Format is set to Video Mode Off (see *HDD Recording Format* on page 114), both channels of the broadcast are recorded (unless you set the recording mode to LPCM, in which case only the channel set using the Bilingual Recording setting will be recorded; see *Using the built-in TV tuner* on page 32).

- *Can I record continuously on the HDD for more than 12 hours?*

Yes, timer recordings made to the HDD can be set for up to 24 hours. However, because the maximum length of a title is 12 hours, the recording will be spread over two titles. Note that there will be a short break in the recording between titles.

See also *Setting a timer recording* on page 54.

- *Can I copy a finalized Video mode disc (DVD-R or DVD-RW) to the HDD?*

Yes. Start playing the Video mode disc and use the One Touch Copy button to copy the currently playing title to the HDD. Repeat for as many titles on the disc as you want to copy.

See also *Copying from DVD to HDD* on page 80.

- *Can I use high-speed copy to copy from DVD to HDD?*

You can only use high-speed copy from DVD to HDD when copying Original titles from a VR mode DVD-R or DVD-RW disc.

See also *Copying from DVD to HDD* on page 80.

- *Can I copy a copy-once protected program from a subscription satellite or cable channel to a DVD from the HDD?*

Yes, you can use high-speed copy to copy to a VR mode disc. You can also divide the recording on the HDD into a number of smaller titles if the whole recording won't fit on to one disc.

See also *Copying from HDD to DVD* on page 77.

- *Can I play a DVD I recorded on this recorder on another DVD player?*

Yes, you can generally play finalized Video mode discs recorded on this recorder on any standard DVD player. You may find, however, that some players will not play some recordable media.

For VR mode DVD-RW discs, look for the 'RW Compatible' mark to see if it will play the disc.

Manual recording modes

The table below shows the approximate recording times for a VR mode and Video mode DVD in each manual recording mode, as well as the standard recording mode equivalents. Levels separated by a bold line show where there is a noticeable change in picture quality.

Audio recording in all manual recording modes is in Dolby Digital 2ch format, except for LPCM mode, which is in Linear PCM format.

Video mode Off (HDD) VR mode (DVD)				Video mode On (HDD) Video mode (DVD)		
Resolution*	Level	Rec. time		Level	Rec. time	Resolution*
352 x 240 / 352 x 288	MN 1	802 mins.		MN 1	802 mins.	352 x 240 / 352 x 288
	MN 2	720 mins.		MN 2	720 mins.	
	MN 3	600 mins.	SEP	MN 3	600 mins.	
	MN 4	480 mins.	SLP	MN 4	480 mins.	
	MN 5	420 mins.		MN 5	420 mins.	
	MN 6	360 mins.	EP	MN 6	360 mins.	
352 x 480 / 352 x 576	MN 7	300 mins.		MN 7	300 mins.	352 x 480 / 352 x 576
	MN 8	270 mins.		MN 8	270 mins.	
	MN 9	240 mins.	LP	MN 9	240 mins.	
480 x 480 / 480 x 576	MN 10	230 mins.		MN 10	230 mins.	
	MN 11	220 mins.		MN 11	220 mins.	
544 x 480 / 544 x 576	MN 12	210 mins.		MN 12	210 mins.	720 x 480 / 720 x 576
	MN 13	200 mins.		MN 13	200 mins.	
	MN 14	190 mins.		MN 14	190 mins.	
	MN 15	180 mins.		MN 15	180 mins.	
	MN 16	170 mins.		MN 16	170 mins.	
720 x 480 / 720 x 576	MN 17	160 mins.		MN 17	160 mins.	
	MN 18	150 mins.		MN 18	150 mins.	
	MN 19	140 mins.		MN 19	140 mins.	
	MN 20	130 mins.		MN 20	130 mins.	
	MN 21	120 mins.	SP	MN 21	120 mins.	
	MN 22	110 mins.		MN 22	110 mins.	
	MN 23	105 mins.		MN 23	105 mins.	
	MN 24	100 mins.		MN 24	100 mins.	
	MN 25	95 mins.		MN 25	95 mins.	
	MN 26	90 mins.		MN 26	90 mins.	
	MN 27	85 mins.		MN 27	85 mins.	
	MN 28	80 mins.		MN 28	80 mins.	
	MN 29	75 mins.		MN 29	75 mins.	
	MN 30	70 mins.		MN 30	70 mins.	
	MN 31	65 mins.		MN 31	65 mins.	
	MN 32	61 mins.	XP	MN 32	61 mins.	
	LPCM	61 mins.		LPCM	61 mins.	
	XP+ **	41 mins.		XP+ **	41 mins.	

* The first figure refers to when the Input Line System is set to 525 System; the second when set to 625 System.

** XP+ mode is available for HDD recording only. If set for a DVD recording, the DVD will be recorded in MN32 mode.

When recording to the HDD, recording for the times given will use approximately 4.7 GB of HDD space (equivalent to one recordable DVD).

See also *HDD and DVD recording* on page 50.

Language code list

Language (Language code letter), **Language code**

Japanese (ja), 1001	Bhutani (dz), 0426	Kirghiz (ky), 1125	Sinhalese (si), 1909
English (en), 0514	Esperanto (eo), 0515	Latin (la), 1201	Slovak (sk), 1911
French (fr), 0618	Estonian (et), 0520	Lingala (ln), 1214	Slovenian (sl), 1912
German (de), 0405	Basque (eu), 0521	Laothian (lo), 1215	Samoa (sm), 1913
Italian (it), 0920	Persian (fa), 0601	Lithuanian (lt), 1220	Shona (sn), 1914
Spanish (es), 0519	Finnish (fi), 0609	Latvian (lv), 1222	Somali (so), 1915
Chinese (zh), 2608	Fiji (fj), 0610	Malagasy (mg), 1307	Albanian (sq), 1917
Dutch (nl), 1412	Faroe (fo), 0615	Maori (mi), 1309	Serbian (sr), 1918
Portuguese (pt), 1620	Frisian (fy), 0625	Macedonian (mk), 1311	Siswati (ss), 1919
Swedish (sv), 1922	Irish (ga), 0701	Malayalam (ml), 1312	Sesotho (st), 1920
Russian (ru), 1821	Scots-Gaelic (gd), 0704	Mongolian (mn), 1314	Sundanese (su), 1921
Korean (ko), 1115	Galician (gl), 0712	Moldavian (mo), 1315	Swahili (sw), 1923
Greek (el), 0512	Guarani (gn), 0714	Marathi (mr), 1318	Tamil (ta), 2001
Afar (aa), 0101	Gujarati (gu), 0721	Malay (ms), 1319	Telugu (te), 2005
Abkhazian (ab), 0102	Hausa (ha), 0801	Maltese (mt), 1320	Tajik (tg), 2007
Afrikaans (af), 0106	Hindi (hi), 0809	Burmese (my), 1325	Thai (th), 2008
Amharic (am), 0113	Croatian (hr), 0818	Nauru (na), 1401	Tigrinya (ti), 2009
Arabic (ar), 0118	Hungarian (hu), 0821	Nepali (ne), 1405	Turkmen (tk), 2011
Assamese (as), 0119	Armenian (hy), 0825	Norwegian (no), 1415	Tagalog (tl), 2012
Aymara (ay), 0125	Interlingua (ia), 0901	Occitan (oc), 1503	Setswana (tn), 2014
Azerbaijani (az), 0126	Interlingue (ie), 0905	Oromo (om), 1513	Tonga (to), 2015
Bashkir (ba), 0201	Inupiak (ik), 0911	Oriya (or), 1518	Turkish (tr), 2018
Byelorussian (be), 0205	Indonesian (in), 0914	Panjabi (pa), 1601	Tsonga (ts), 2019
Bulgarian (bg), 0207	Icelandic (is), 0919	Polish (pl), 1612	Tatar (tt), 2020
Bihari (bh), 0208	Hebrew (iw), 0923	Pashto, Pushto (ps), 1619	Twi (tw), 2023
Bislama (bi), 0209	Yiddish (ji), 1009	Quechua (qu), 1721	Ukrainian (uk), 2111
Bengali (bn), 0214	Javanese (jw), 1023	Rhaeto-Romance (rm), 1813	Urdu (ur), 2118
Tibetan (bo), 0215	Georgian (ka), 1101	Kirundi (rn), 1814	Uzbek (uz), 2126
Breton (br), 0218	Kazakh (kk), 1111	Romanian (ro), 1815	Vietnamese (vi), 2209
Catalan (ca), 0301	Greenlandic (kl), 1112	Kinyarwanda (rw), 1823	Volapük (vo), 2215
Corsican (co), 0315	Cambodian (km), 1113	Sanskrit (sa), 1901	Wolof (wo), 2315
Czech (cs), 0319	Kannada (kn), 1114	Sindhi (sd), 1904	Xhosa (xh), 2408
Welsh (cy), 0325	Kashmiri (ks), 1119	Sangho (sg), 1907	Yoruba (yo), 2515
Danish (da), 0401	Kurdish (ku), 1121	Serbo-Croatian (sh), 1908	Zulu (zu), 2621

Country/Area code list

Country/Area, **Country/Area code**, Code letter

Argentina, 0118 , ar	Finland, 0609 , fi	Malaysia, 1325 , my	Singapore, 1907 , sg
Australia, 0121 , au	France, 0618 , fr	Mexico, 1324 , mx	Spain, 0519 , es
Austria, 0120 , at	Germany, 0405 , de	Netherlands, 1412 , nl	Sweden, 1905 , se
Belgium, 0205 , be	Hong Kong, 0811 , hk	New Zealand, 1426 , nz	Switzerland, 0308 , ch
Brazil, 0218 , br	India, 0914 , in	Norway, 1415 , no	Taiwan, 2023 , tw
Canada, 0301 , ca	Indonesia, 0904 , id	Pakistan, 1611 , pk	Thailand, 2008 , th
Chile, 0312 , cl	Italy, 0920 , it	Philippines, 1608 , ph	United Kingdom, 0702 , gb
China, 0314 , cn	Japan, 1016 , jp	Portugal, 1620 , pt	USA, 2119 , us
Denmark, 0411 , dk	Korea, Republic of, 1118 , kr	Russian Federation, 1821 , ru	

On-screen displays and recorder displays

The table below shows a list of error messages that you may encounter when using the recorder and an explanation of their meaning.

Message	Explanation/Action
<ul style="list-style-type: none"> • Initializing disc. Please wait a moment. 	When you load a blank DVD-RW disc, the recorder automatically initializes it.
<ul style="list-style-type: none"> • Incompatible region number. 	The disc loaded has an incompatible region number for the recorder and so will not play.
<ul style="list-style-type: none"> • Cannot record any more titles. • No more space for file management data. • Cannot add any more chapter marks. 	The disc control data limit has been reached, or the maximum number of chapters and/or titles has been reached. Erase titles/chapters or combine chapters.
<ul style="list-style-type: none"> • This disc cannot be recorded. Undo the finalization. 	The disc was finalized on a non-Pioneer DVD recorder. Undo the finalization in order to recording/editing.
<ul style="list-style-type: none"> • Cannot play this disc. • This disc cannot be recorded. • Cannot read the CPRM information. • Could not record the information to the disc. • Cannot edit. • Could not initialize disc. • Could not complete finalization successfully. • Could not undo finalization successfully. • Could not successfully unlock the disc. 	The disc may be dirty or damaged. Take out the disc, clean it and retry. If the error persists, use a new disc. If the error appears even with a new disc, please consult a Pioneer Service Center.
<ul style="list-style-type: none"> • Incompatible or unreadable disc. 	The disc loaded is a DVD+R/RW, DVD-RAM or some other playback-only disc type. This display may also appear if the disc is dirty or damaged.
<ul style="list-style-type: none"> • Cannot record to a disc that is not CPRM compatible. • Cannot record this content using Video mode recording. 	The video source is copy-once protected. Use a VR mode DVD-R/RW disc with CPRM for recording.
<ul style="list-style-type: none"> • This content is copy protected. 	The video source is copy-protected and cannot be recorded.
<ul style="list-style-type: none"> • Incorrect CPRM information. 	The recorder could not read the CPRM information. The recorder may be damaged—please consult a Pioneer Service Center.
<ul style="list-style-type: none"> • The audio will conform to the [Bilingual Recording] setting. 	When recording from an external input in Video mode (DVD), Video Mode On (HDD), or in LPCM mode, you can only record the left or right channel; not both.
<ul style="list-style-type: none"> • Repairing disc. 	During recording, the power was cut. This display appears when the power is restored.
<ul style="list-style-type: none"> • Could not repair the disc. 	The recorder was unable to repair the disc after a power cut. The contents of the recording will be lost.
<ul style="list-style-type: none"> • Overheating has stopped operation. Press DISPLAY to clear this message. 	The internal temperature of the recorder has exceeded the operating limit. If this message reappears, please contact a Pioneer authorized service center.
<ul style="list-style-type: none"> • HDD optimization is recommended. This can be done using Disc Setup. 	The HDD should be optimized (basically, HDD housekeeping) to maintain playback and recording performance.

Message	Explanation/Action
• Please perform HDD optimization. This can be done using Disc Setup.	The HDD is in more urgent need of optimization in order to maintain performance.
• The HDD has not been sufficiently optimized. Please optimize again.	If this message appears repeatedly after optimizing the HDD it is likely that there is not enough free space on the HDD for optimization to complete properly. Please erase some titles from the HDD and optimize again.
• This channel's TV system is different from the recorder's setting.	The TV system (PAL, NTSC, etc.) of the current channel is different from the TV system settings of this recorder.
• Recording failed due to a TV system mismatch. Press DISPLAY to clear message.	The timer recording failed because the TV system of the channel set for recording was different from the setting of the recorder.
• Playback has stopped because the TV system is different than the recording.	During recording or timer recording standby, the TV System (PAL, NTSC, etc.) of the playback video changed, causing playback to stop automatically.

Handling discs

When holding discs of any type, take care not to leave fingerprints, dirt or scratches on the disc surface. Hold the disc by its edge or by the center hole and edge.

Damaged or dirty discs can affect playback and recording performance. Take care also not to scratch the label side of the disc. Although not as fragile as the recorded side, scratches can still result in a disc becoming unusable.

Should a disc become marked with fingerprints, dust, etc., clean using a soft, dry cloth, wiping the disc lightly from the center to the outside edge. Do not wipe with a circular motion.



If necessary, use a cloth soaked in alcohol, or a commercially available CD/DVD cleaning kit to clean a disc more thoroughly. Never use benzine, thinner or other cleaning agents, including products designed for cleaning vinyl records.

Storing discs

Although CDs and DVD discs are more durable than vinyl records, you should still take care to handle and store discs correctly. When you're not using a disc, return it to its case and store upright. Avoid leaving discs in excessively cold, humid, or hot environments (including under direct sunlight).

Don't glue paper or put stickers onto the disc, or use a pencil, ball-point pen or other sharp-tipped writing instrument. These could all damage the disc.



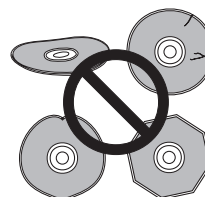
For more detailed care information see the instructions that come with discs.

Do not load more than one disc into the recorder.

Damaged discs

Discs spin at high speed inside the recorder. If you can see that a disc is cracked, chipped, warped, or otherwise damaged, don't risk using it; you could end up damaging the recorder.

This recorder is designed for use with conventional, fully circular discs only. Use of shaped discs is not recommended for this product. Pioneer disclaims all liability arising in connection with the use of shaped discs.



Cleaning the pickup lens

The DVD recorder's lens should not become dirty in normal use, but if for some reason it should malfunction due to dust or dirt, consult your nearest Pioneer-authorized service center. Although lens cleaners are commercially available, we do not recommend using them since some may damage the lens.

Handling video tapes

Please do not use the following kinds of video tape:

- Dusty or mouldy tape
- Tape on which liquid has been spilled
- Tape which has been broken then repaired
- Tape which has become unwound from the spools in the cassette

Very long length video tapes use thinner tape, that can cause problems such as uneven playback. We don't recommend using tapes longer than E180.

Before using a new video tape, fast forward it to the end once, then back to the beginning.

Avoid dropping video tapes, or exposing them to severe vibration.

Storing video tapes

After using a video tape, rewind it to the start and return it to its case.

Do not store tapes:

- in excessively hot, humid or dusty places
- in direct sunlight
- near air-conditioners or heaters
- near strong magnetic fields

Cleaning the tape heads

With use, the video tape heads will become dirty, resulting in degraded playback and recording performance. When you notice the playback picture suffering from the 'snow' effect, it's time to clean the heads. Use a good quality non-abrasive, chemical (wet) head cleaning tape, or have them cleaned professionally. You may need to run the tape several times to clean the heads thoroughly.

Do not attempt to clean the video heads or service the unit by removing the top cover.



Note

- The video heads may eventually wear out and should be replaced when they fail to produce a clear picture.
- To maximize the life of the heads, use good quality VHS tapes and do not use worn out tapes.

Moisture condensation

If the unit is suddenly moved from a cold place to a warm place do not operate it for two or three hours.

Moisture condensation on the head drum, one of the most crucial parts of the unit, will cause damage to the tape. If you experience the above conditions, switch the unit off and leave at room temperature until moisture condensation disappears.

Hints on installation

We want you to enjoy using this unit for years to come, so please bear in mind the following points when choosing a suitable location for it:


Do...

- ✓ Use in a well-ventilated room.
- ✓ Place on a solid, flat, level surface, such as a table, shelf or stereo rack.

Don't...

- ✗ Use in a place exposed to high temperatures or humidity, including near radiators and other heat-generating appliances.
- ✗ Place on a window sill or other place where the recorder will be exposed to direct sunlight.
- ✗ Use in a dusty or damp environment or in a room where it will be exposed to excessive cigarette smoke.
- ✗ Place directly on top of an amplifier, or other component in your stereo system that becomes hot in use.
- ✗ Use near a television or monitor as you may experience interference—especially if the television uses an indoor antenna.
- ✗ Use in a kitchen or other room where the recorder may be exposed to smoke or steam.
- ✗ Use on a thick rug or carpet, or cover with cloth—this may prevent proper cooling of the unit.
- ✗ Place on an unstable surface, or one that is not large enough to support all four of the unit's feet.

Moving the recorder

If you need to move the recorder, first remove the disc and the cassette, if they are loaded, and close the disc tray. Next, press  **STANDBY/ON** to switch the power to standby, checking that the **POWER OFF** indication in the display goes off. Wait at least two minutes. Lastly, disconnect the power cord.

Glossary

Analog audio

An electrical signal that directly represents sound. Compare this to digital audio which can be an electrical signal, but is an indirect representation of sound. See also *Digital audio*.

Aspect ratio

The width of a TV screen relative to its height. Conventional TVs are 4:3 (in other words, the screen is almost square); widescreen models are 16:9 (the screen is almost twice as wide as it is high).

Chapter

Just as a book is split up into several chapters, a title on the HDD/a DVD disc is usually divided into chapters. See also *Title*.

Digital audio

An indirect representation of sound by numbers. During recording, the sound is measured at discrete intervals (44,100 times a second for CD audio) by an analog-to-digital converter, generating a stream of numbers. On playback, a digital-to-analog converter generates an analog signal based on these numbers. See also *Sampling frequency* and *Analog audio*.

Dolby Digital



Dolby® Digital Stereo Creator enables consumers to create stereo DVD-Videos with stunning Dolby Digital sound tracks at home. The technology, when utilized instead of PCM recording, also saves recordable disc space, allowing for higher video resolution or extended recording time on each DVD. DVDs mastered using Dolby Digital Stereo Creator will play back on all DVD-Video players.

Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

DRM (Digital Rights Management)

DRM (Digital Rights Management) copy protection is a technology designed to prevent unauthorized copying by restricting playback, etc. of material on devices other than the PC (or other WMA recording equipment) used to record it. For detailed information, please see the instruction manuals or help files that came with your PC (or other WMA recording equipment) and/or software.

DTS



DTS stands for Digital Theater System. DTS is a surround system different from Dolby Digital that has become a popular surround sound format for movies.

"DTS" and "DTS Digital Out" are registered trademarks of Digital Theater Systems, Inc.

Dynamic range

The difference between the quietest and loudest sounds possible in an audio signal (without distorting or getting lost in noise). Dolby Digital and DTS soundtracks are capable of a wide dynamic range, delivering dramatic cinema-like effects.

EXIF (Exchangeable Image File)

A file format developed by Fuji Photo Film for digital still cameras. Digital cameras from various manufacturers use this compressed file format which carries date, time and thumbnail information, as well as the picture data.

File extension

A tag added to the end of a filename to indicate the type of file. For example, ".mp3" indicates an MP3 file.

ISO 9660 format

International standard for the volume and file structure of CD-ROM discs.

JPEG

A file format used for still images, such as photographs and illustrations. JPEG files are identified by the file extension ".jpg" or ".JPG". Most digital cameras use this format.

MP3

MP3 (MPEG1 audio layer 3) is a compressed audio file format. Files are recognized by their file extension ".mp3" or ".MP3".

MPEG audio**MPEG) (Multichannel**

An audio format used on Video CDs and some DVD discs. This unit can convert MPEG audio to PCM format for wider compatibility with digital recorders and AV amp/receivers. See also *PCM*.

MPEG video

The video format used for Video CDs and DVDs. Video CD uses the older MPEG-1 standard, while DVD uses the newer and much better quality MPEG-2 standard.

Optical digital output

A jack that outputs digital audio in the form of light pulses. Connect components with optical digital jacks using a special optical cord, available from specialist audio dealers.

PCM (Pulse Code Modulation)

The most common system of encoding digital audio, found on CDs and DAT. Excellent quality, but requires a lot of data compared to formats such as Dolby Digital and MPEG audio. For compatibility with digital audio recorders (CD, MD and DAT) and AV amp/receivers with digital inputs, this unit can convert Dolby Digital and MPEG audio to PCM. See also *Digital audio*.

PBC (PlayBack Control) (Video CD/Super VCD only)

A system of navigating a Video CD/Super VCD through on-screen menus recorded onto the disc. Especially good for discs that you would normally not watch from beginning to end all at once—karaoke discs, for example.

Regions (DVD only)

(example region code marks)

Regions associate discs and players with particular areas of the world. This unit will only play discs that have compatible region codes. You can find the region code of your unit by looking on the rear panel. Some discs are compatible with more than one region (or all regions).

Sampling frequency

The rate at which sound is measured to be turned into digital audio data. The higher the rate, the better the sound quality, but the more digital information is generated. Standard CD audio has a sampling frequency of 44.1kHz, which means 44,100 samples (measurements) per second. See also *Digital audio*.

Title

A collection of chapters on a the HDD/DVD disc. See also *Chapter*.

Track

Audio CDs and Video CDs use tracks to divide up the content of a disc. The DVD equivalent is called a chapter. See also *Chapter*.

WMA

WMA is short for Windows Media Audio and refers to an audio compression technology developed by Microsoft Corporation. WMA data can be encoded by using Windows Media Player version 9 or 10, or Windows Media Player for Windows XP. Files are recognized by their file extension ".wma" or ".WMA".

Microsoft, Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

Specifications

General

System HDD, DVD-Video, DVD-R/RW,
Video-CD, Super VCD, CD,
CD-R/RW (WMA, MP3, JPEG, CD-DA)
Power requirements 220–240 V, 50/60 Hz
Power consumption 53 W
Power consumption in standby mode 0.9 W
(Front panel display: off)
Weight 6.0 kg
Dimensions 430 (W) x 91 (H) x 362 (D) mm
Operating temperature +5°C to +35°C
Operating humidity 5% to 80%
(no condensation)
TV system PAL/SECAM/
NTSC (external input only)

Recording

Recording format DVD Video Recording
DVD-VIDEO

Recordable discs

DVD-RW (DVD Re-recordable disc)
DVD-R (DVD Recordable disc)

Video recording format

Sampling frequency 13.5MHz
Compression format MPEG

Audio recording format

Sampling frequency 48kHz
Compression format Dolby Digital or Linear PCM
(uncompressed)

Recording time

HDD (80GB)

XP+ Approx. 11 hours
Fine (XP) Approx. 17 hours
Standard Play (SP) Approx. 34 hours
Long Play (LP) Approx. 68 hours
Extended Play (EP) Approx. 102 hours
Super Long Play (SLP) Approx. 136 hours
Super Extended Play (SEP) Approx. 170 hours
Manual Mode (MN) Approx. 17–227 hours

DVD-R/DVD-RW

Fine (XP) Approx. 1 hour
Standard Play (SP) Approx. 2 hours
Long Play (LP) Approx. 4 hours
Extended Play (EP) Approx. 6 hours
Super Long Play (SLP) Approx. 8 hours
Super Extended Play (SEP) Approx. 10 hours
Manual Mode (MN) Approx. 1–13 hours

Tuner

Receivable channels

	SECAM B/G		PAL I	
	Frequency	Channel	Frequency	Channel
VHF (low)	47 - 89 MHz	E2 - E4 X - Z	44 - 89 MHz	A - C X - Z
VHF (high)	104 - 300 MHz	E5 - E12 S1 - S20 M1 - M10 U1 - U10	104 - 300 MHz	D - J 11, 13 S1 - S20
Hyper	302 - 470 MHz	S21 - S41	302 - 470 MHz	S21 - S41
UHF	470 - 862 MHz	E21 - E69	470 - 862 MHz	E21 - E69

	SECAM L		SECAM D/K PAL D/K	
	Frequency	Channel	Frequency	Channel
VHF (low)	49 - 65 MHz	FB, FC1, FC	49 - 94 MHz	R1 - R5
VHF (high)	104 - 300 MHz	F1 - F6 B - Q	104 - 300 MHz	R6 - R12 S1 - S20
Hyper	300 - 470 MHz	S21 - S41	302 - 470 MHz	S21 - S41
UHF	470 - 862 MHz	21 - 69	470 - 862 MHz	E21 - E69

STEREO
B/G - A2
I - NICAM
L - NICAM
B/G - NICAM
D/K - NICAM

Timer

Programs 1 month/32 programs
Clock Quartz lock (24-hour digital display)
Power off memory Approx. 5 years (after manufacture)

Input/Output

VHF/UHF antenna input/output terminal VHF/UHF set
75 Ω (IEC connector)

Video input Input 1 (rear), 2 (front)
Input level 1 Vp-p (75 Ω)
Jacks AV connector 2 (Input 1),
RCA jack (Input 2)

Video output AV1, Output
Output level 1 Vp-p (75 Ω)
Jacks AV connector (AV1)
RCA jack (Output)

S-Video input Input 1 (rear), Input 2 (front)
(HDD/DVD only)

Y (luminance) - Input level 1 Vp-p (75 Ω)
C (colour) - Input level 300 mVp-p (75 Ω)
Jacks AV connector 2 (Input 1),
4 pin mini DIN (Input 2)

S-Video output Output
(HDD/DVD only)

Y (luminance) - Output level 1 Vp-p (75 Ω)
C (colour) - Output level 300 mVp-p (75 Ω)
Jacks 4 pin mini DIN (Output)

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